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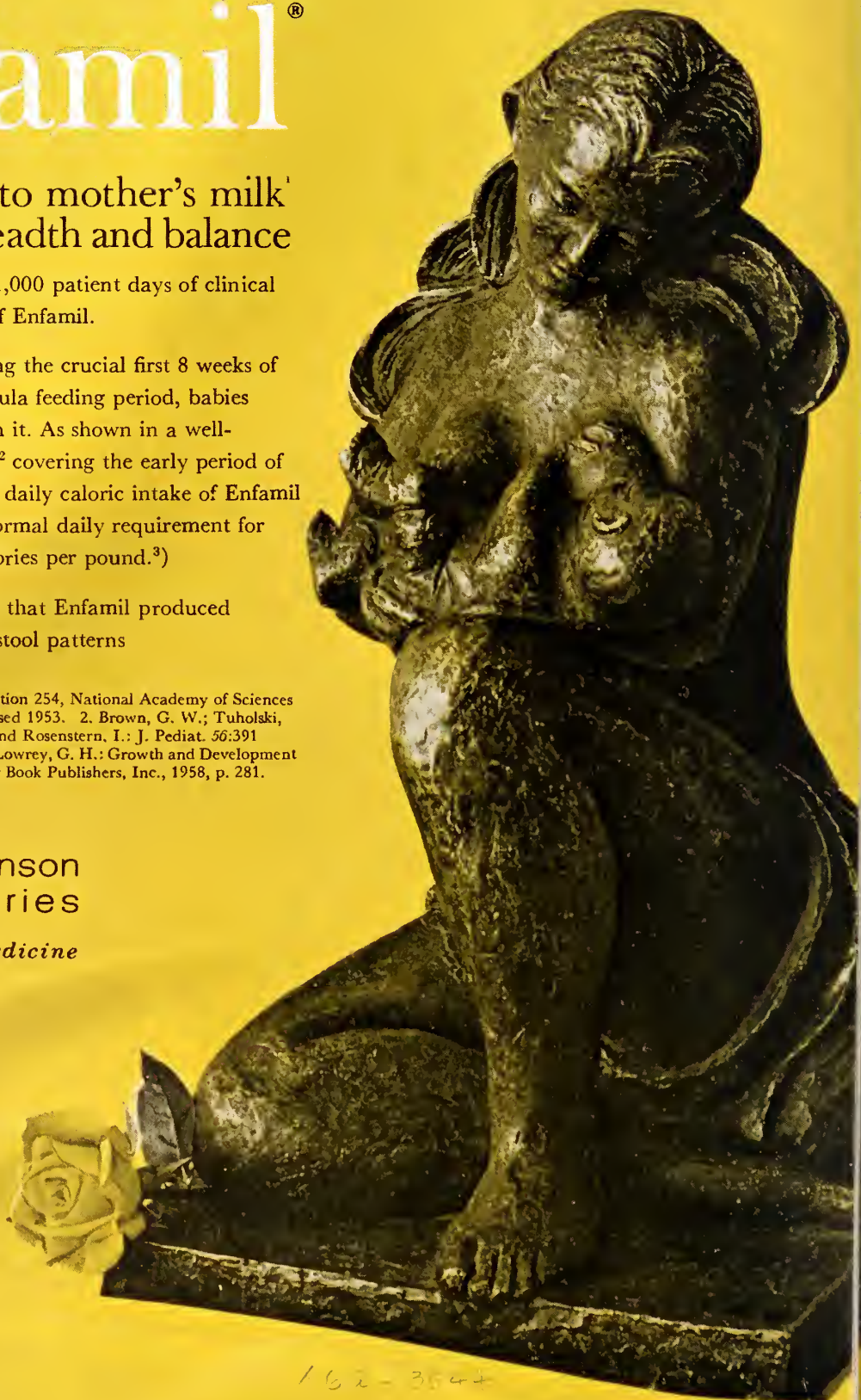
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Volumes begin with the first of January and the first of July. Subscriptions may commence at any time.

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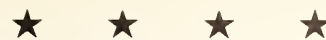
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breakfast	1120 CALORIES	lunch	1120 CALORIES	snack	1120 CALORIES
1 1/2 cup grapefruit sections *Hard Eggs Coffee or tea with 3 tbsps. skim milk	70 200 10	2 oz. tomato juice 2 oz. drained tuna fish, surrounded only raw vegetables with 1 tbsp. French dressing 1 cup water Coffee or tea with 3 tbsps. skim milk	70 90 20 10	1 1/2 cup grapefruit sections *Hard Eggs Coffee or tea with 3 tbsps. skim milk	70 200 10
TOTAL	290	TOTAL	290	TOTAL	290
snack	1120 CALORIES	dinner	1120 CALORIES	snack	1120 CALORIES
1 1/2 cup grapefruit sections *Hard Eggs Coffee or tea with 3 tbsps. skim milk	70 200 10	2 oz. tomato juice 2 oz. drained tuna fish, surrounded only raw vegetables with 1 tbsp. French dressing 1 cup water Coffee or tea with 3 tbsps. skim milk	70 90 20 10	1 1/2 cup grapefruit sections *Hard Eggs Coffee or tea with 3 tbsps. skim milk	70 200 10
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Books received by CALIFORNIA MEDICINE are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.

ADRENERGIC MECHANISMS—Ciba Foundation Symposium, jointly with Committee for Symposia on Drug Action. J. R. Vane, B.Sc., D.Phil., editor for the British Pharmacological Society. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., editors for the Ciba Foundation. Little, Brown & Company, Publishers, 34 Beacon Street, Boston, Mass., 1960. 632 pages, \$12.50.

THE AIR WE BREATHE—A Study of Man and His Environment—Edited by Seymour M. Farber, M.D., Chief, University of California Tuberculosis and Chest Service, San Francisco General Hospital; Assistant Dean, Department of Continuing Education in Medicine and the Health Sciences, University of California School of Medicine and University Extension, San Francisco, California; and Roger H. L. Wilson, M.D., Assistant Clinical Professor of Medicine; Assistant Head, Medical Extension, University of California School of Medicine and University Extension, San Francisco, California. In collaboration with John R. Goldsmith, M.D., and Mello Pace, Ph.D., members of the Program Committee. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1961. 414 pages, \$14.00.

ANNUAL REVIEW OF MEDICINE—Volume 12—David A. Ryland, Editor, and William P. Creger, Associate Editor, both of Stanford University School of Medicine. Annual Reviews, Inc., Palo Alto, California, 1961. 455 pages, \$7.00 per copy, postpaid (U.S.A.), \$7.50 postpaid (elsewhere).

THE CHANGING YEARS—The Menopause Without Fear—New, Revised Edition. Madeline Gray. Dolphin Books, paperback. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1961. 273 pages, 95 cents.

son Avenue, New York 22, New York, 1961. 273 pages, 95 cents.

CIBA FOUNDATION STUDY GROUP NO. 6—Metabolic Effects of Adrenal Hormones, in honour of Prof. G. W. Thorn. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., editors for the Ciba Foundation. Little, Brown & Company, Publishers, 34 Beacon Street, Boston 6, Mass., 1960. 109 pages, \$2.50.

CLINICAL DISTURBANCES OF RENAL FUNCTION—Abraham G. White, M.D., F.A.C.P., Associate Visiting Physician and Chief of the Renal Disease Clinic, Queens Hospital Center, Jamaica, N. Y. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pennsylvania, 1961. 468 pages, \$10.50.

DIRECT ANALYSIS AND SCHIZOPHRENIA—Clinical Observations and Evaluations—O. Spurgeon English, M.D., Professor and Head, Dept. of Psychiatry; Warren W. Hampe, Jr., M.D., Associate in Psychiatry; Catherine L. Bacon, M.D., Clinical Professor of Psychiatry; and Calvin F. Settlege, M.D., Associate Professor of Psychiatry—all of Temple University Medical Center. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 128 pages, \$4.25.

ESSENTIAL PATHOLOGY—Roger D. Baker, M.D., Professor of Pathology, Duke University School of Medicine; Chief of Laboratory Service, Veterans Administration Hospital, Durham, North Carolina. The Williams & Wilkins Company, Baltimore 2, Maryland, 1961. 638 pages, \$9.50.

THE FAMILY HANDBOOK OF HOME NURSING AND MEDICAL CARE—I. J. Rossman, M.D., Ph.D., Chief of Professional Services, Home Care Department, Montefiore Hospital, New York; and Doris R. Schwartz, R.N., Assistant Professor in Outpatient Nursing, The Cornell University—New York Hospital School of Nursing, New York. A Dolphin Reference Book—Paperback. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1961. 519 pages, \$1.45.

HOUSE OF HEALING—The Story of the Hospital—Mary Risley. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, N. Y., 1961. 288 pages, \$4.50.

MANAGEMENT OF OBSTETRIC DIFFICULTIES—SIXTH EDITION—Revised by J. Robert Willson, M.D., M.S., Professor of Obstetrics and Gynecology, Temple University School of Medicine; Head of the Department of Obstetrics and Gynecology, Temple University Medical Center. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo., 1961. 687 pages, with 323 text illustrations and one color plate, \$16.50.

A MANUAL OF CUTANEOUS MEDICINE—Donald M. Pillsbury, M.A., D.Sc. (Hon.), M.D., F.A.C.P., Professor and Chairman of Dermatology, University of Pennsylvania School of Medicine; Director, Commission on Cutaneous Diseases, Armed Forces Epidemiological Board; President XII International Congress of Dermatology; Walter B. Shelley, M.D., Ph.D., F.A.C.P., Professor of Dermatology, University of Pennsylvania School of Medicine; National Consultant in Dermatology to the Surgeons General, U. S. Army and U. S. Air Force; and Albert M. Kligman, M.D., Ph.D., Professor of Dermatology, University of Pennsylvania School of Medicine; Professor of Dermatology, University of Pennsylvania Graduate School of Medicine. W. B. Saunders Company, Washington Square, Philadelphia, Pennsylvania, 1961. 430 pages, \$9.50.

MEDICAL ALMANAC 1961/1962—A compilation of general information, statistics and other data relating to medical care, medical education, medical organizations and literature, incidence of illness and economic aspects of medical practice. Compiled by: Peter S. Nagan, A.B., M.A., M.S. W. B. Saunders Company, Philadelphia, Pa., 1961. 528 pages, \$5.00.

NEWER DIMENSIONS OF PATIENT CARE—Part 1—The Use of the Physical and Social Environment of the General Hospital for Therapeutic Purposes—Esther Lucile Brown, Ph.D. Russell Sage Foundation, New York, N. Y., 1961. 159 pages, \$2.00.

THE PHYSIOLOGY OF EMOTIONS—Report of the Third Annual Symposium of the Kaiser Foundation Hospitals in Northern California, San Francisco. Alexander Simon, M.D., Editor—Professor and Chairman, Department of Psychiatry, University of California School of Medicine; Medical Director, Langley Porter Institute, San Francisco. Charles C. Herbert, M.D., Associate Editor—

(Continued on Page 20)

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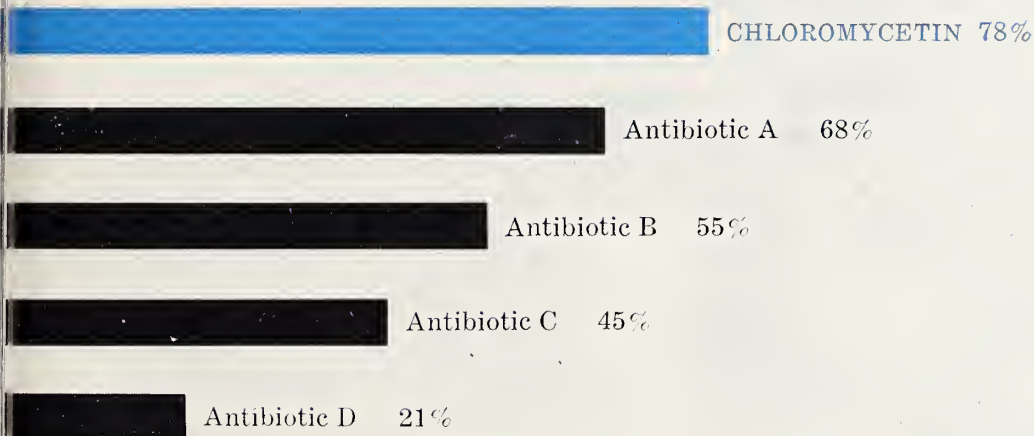
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These strains of coagulase-positive staphylococci were isolated from hospitalized patients at a large county hospital during the year 1959. Sensitivity tests were done by the disc method.

*Adapted from Bauer, Perry, & Kirby¹

References: (1) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* 173:475, 1960. (2) Fisher, M. W.: *Ch. Int. Med.* 105:413, 1960. (3) Cohen, S.: *Circulation* 20:96, 1959. (4) Edwards, T. S.: *Am. J. Ophth.* Part II:19, 1959. (5) Smith, I. M.: *Staphylococcal Infections*, Chicago, The Year Book Publishers, Inc., 1958, p. 148. (6) Petersdorf, R. G.; Rose, M. C.; Minchew, H. B.; Keene, W. R., & Bennett, I. L., Jr.: *Ch. Int. Med.* 105:398, 1960. (7) Editorial: *J.A.M.A.* 173:544, 1960. (8) Finland, M.; Jones, W. F., Jr., & Bennett, I. L., Jr.: *Arch. Int. Med.* 104:365, 1959.

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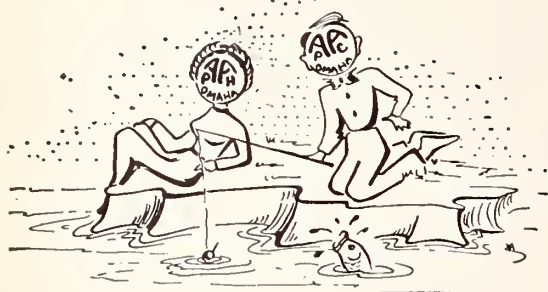
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Flu Epidemics Cause Excess Deaths

Flu epidemics have a lethal potential for certain high-risk groups, according to an article in the June 3 *Journal of the American Medical Association*.

An estimated 36,000 deaths in excess of the normally expected number occurred in the United States during three waves of Asian flu in 1957, 1958, and 1960, Theodore C. Eickhoff, M.D., Ida L. Sherman, M.S., and Robert E. Serfling, Ph.D., Communicable Disease Center, Public Health Service, Atlanta, reported.

Nearly 40,000 excess deaths were recorded during the first outbreak of Asian flu from September through December, 1957, they said. A second wave from January through March, 1958, brought 20,000 excess deaths, they said, and a third outbreak during the first three months of 1960 caused approximately 27,000 excess deaths.

There is a "significant body of evidence that the lethal potential of epidemic influenza is still present and still to be reckoned with," the authors said. "Rather than recurring in a mild form, as might have been anticipated as the over-all immunity of the population increased, the most recent outbreak in 1960 resulted in excess mortality which exceeded that of the second wave of the 1957-1958 epidemic."

From an analysis of the excess deaths, the researchers concluded that it is "apparent that the population over 65 years of age pays by far the heaviest toll in excess deaths."

"Although during the first epidemic period only slightly over one-half of the excess deaths occurred in persons 65 years and older, this proportion increased in succeeding epidemics; in the 1960 epidemic, 80 per cent of the excess deaths occurred among individuals in this age group," they said.

Of the 36,000 excess deaths, they said, almost 85 per cent could be attributed to two broad categories—pneumonia-influenza, and heart-circulatory-kidney diseases. The latter category alone accounted for more than one-half of the total excess deaths, they said.

The authors also noted that the number of deaths fell slightly below normal from June through August, 1958, following the flu epidemics. However, this death deficit was too small to offset the preceding excess, they said.

"This suggests that most victims of an influenza epidemic are those who might have lived considerably longer had influenza not claimed them, rather than severely debilitated patients in whom influenza is merely a terminal event," they said.

Other chronic diseases were found to have a strong association with epidemic influenza in terms of increased risk of death, the authors said.

There was a marked increase in deaths due to asthma and respiratory diseases other than flu and

(Continued on Page 22)

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BOOKS RECEIVED

(Continued from Page 14)

Chief of Medicine and Director of Medical Education, Kaiser Foundation Hospital, San Francisco. Ruth Straus, Assistant Editor—Department of Publication, Kaiser Foundation Hospitals, Oakland, California. With a Preface by Clifford H. Keene, M.D., Vice President, The Kaiser Foundation, Oakland, California. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois, 1961. 248 pages, \$8.50.

SCIENCE AND PSYCHOANALYSIS—VOLUME IV—Psychoanalysis and Social Process—edited by Jules H. Masserman, M.D., Professor of Neurology and Psychiatry, Northwestern University; Director of Education, Illinois State Psychiatric Institute, Chicago. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 196 pages, \$6.75.

SOMATIC TREATMENTS IN PSYCHIATRY (Pharmacotherapy; convulsion, insulin, surgical, other methods)—Lothar B. Kalinowsky, M.D., Associate Professor of Neuropsychiatry, New York School of Psychiatry, New York, N. Y., and Paul H. Hoch, M.D., Professor of Clinical Psychiatry, College of Physicians and Surgeons, Columbia University, New York, N. Y. In collaboration with Brenda Grant, M.D., D.P.M. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 413 pages, \$9.75.

SYMPTOM DIAGNOSIS—Fifth Edition—Wallace Mason Yater, A.B., M.D., M.S. (in Med.), F.A.C.P., Director, Yater Clinic, Washington, D. C. Formerly, Professor of Medicine and Director of the Department of Medicine, Georgetown University School of Medicine; and William Francis Oliver, B.S., M.D., F.A.C.P., Assistant Clinical Professor of Medicine, University of Southern California School of Medicine; Consultant, Santa Barbara General Hospital. Appleton-Century-Crofts, Inc., 32 W. 32nd St., New York 1, N. Y., 1035 pages, \$15.00.

SYSTEMATIC OBSERVATION OF GROSS HUMAN BEHAVIOR—G. R. Pascal and W. O. Jenkins, Professors of Psychology, University of Tennessee. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 126 pages, \$4.75.

Heartburn Caused By Stomach Reflux

Heartburn is not associated with pressure changes in the stomach or esophagus. It is caused by the regurgitation of stomach contents into the esophagus.

These conclusions were drawn from one of the few studies made on patients while they were experiencing intermittent heartburn attacks. The study was reported in the (May 13) *Journal of the American Medical Association*.

The subjects were 12 men ranging in age from 26 to 66.

All of the patients consistently complained of heartburn during regurgitation, the report said, and the heartburn disappeared whenever the reflux stopped.

No pressure changes could be correlated with the regurgitation.

Although stomach aids were regurgitated in the study, the report said, it was assumed that an alkaline solution might have served as an equally potent stimulus to produce heartburn.

Other factors also may be involved in producing heartburn, the report pointed out.

The study was made by Drs. Stewart G. Tuttle, Agostinho Bettarello, and Morton L. Grossman, Los Angeles.



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Artificial Kidney for Two

The twin coil artificial kidney, designed for one person's use, has been modified to treat two patients at the same time, three Cleveland surgeons have reported.

Writing in the May 27 *Journal of the American Medical Association*, Drs. Haakon Ragde, Satoru Nakomoto, and William J. Kolff said eight patients had been treated two at a time on 17 occasions.

"No adverse reaction was observed in any of our patients," they said.

The double procedure allows more patients to be treated in a given period of time and is less expensive since two patients share the cost of one unit and less blood is required to prime one-half of a twin coil artificial kidney.

The artificial kidney duplicates the work of the human kidney by filtering waste products from the blood.

Flu Epidemics Cause Excess Deaths

(Continued from Page 18)

pneumonia; a moderate increase in deaths due to diabetes, and rheumatic heart disease, and a mild but definite increase in deaths due to cirrhosis of the liver, lung tuberculosis, and chronic nephritis, a kidney ailment.

Studies linking flu with mortality among expectant mothers also were cited.

"This analysis serves to underscore the fact that certain individuals are at increased risk of death from influenza," they said. "Three broad groups can be identified, two of which overlap: persons over 65 years of age, persons with certain associated chronic diseases, and pregnant women."

The routine use of influenza vaccine in such high-risk groups may be of great value in reducing the extent of influenza-associated excess mortality, the authors suggested. Vaccines are believed to be 60 to 75 per cent effective in preventing flu, they said.

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Bibliography: 1. Spielman, A. D.: Evaluation of a New Antiasthmatic Compound Aerosol, in press. 2. Lands, A. M. et al.: The Pharmacologic Actions of the Bronchodilator Drug, Isoetharine, J. Am. Pharm. A. (Scient. Ed.) 47:744 (Oct.) 1958.

For full information on Breon's five antiasthmatics, see pp. 538-539 of the 1961 Physicians' Desk Reference plus the 2nd, 3rd or 4th quarterly supplement.

REFERENCES AND REVIEWS

PREGNANCY AT AGE 40 AND OVER—L. B. Posner, J. E. Chidiac, and A. C. Posner. *Obstet. Gynec.*—Vol. 17:194 (Feb.) 1961

At the Harlem Hospital Center 502 women 40 years of age or older were delivered between 1949 and 1959. They accounted for 541 deliveries that resulted in 553 infants. Two mothers died. Two mongoloid babies and five babies with other abnormalities were observed. The incidence of cesarean section was 8 per cent contrasted with a 3 per cent average for all deliveries at the center. The incidence of malpresentation and serious obstetric complications was low in those over 40. There appears to be no relation between the age of the mother and the viability of her infant. Women of 40 or over have a good chance of bearing a living infant at term.

* * *

SYMPTOMS AND SIGNS IN PROGNOSIS OF GASTRODUODENAL ULCERS—D. D. Kozoll and K. A. Meyer. *Arch. Surg.*—Vol. 82:528 (April) 1961

In cases of gastroduodenal ulcer the following symptoms and signs offered a *favorable* prognosis: a history of perforation of less than six hours without antecedent ulcer complications, normal nutritional state, a scaphoid abdomen, generalized tenderness with rigidity and rebound phenomena, and absent or hypoactive bowel sounds. These patients had the lowest morbidity and mortality. The symptoms and signs offering an *adverse* prognosis were: perforation of more than 12 hours, elevated or subnormal temperature, perspiration,

poor oral hygiene, or repeated emesis. These patients were salvageable, although there was a greater than average mortality. These symptoms and signs offered a *grave* prognosis: hemorrhage with perforation, temperature in excess of 102° F. (39° C.), pulse in excess of 120, respiration in excess of 40 per minute, blood pressure below 80 mm. Hg, pallor, malnutrition, obesity, distention, rales, cardiac enlargement, and severe pulmonary emphysema.

* * *

JEJUNAL LOOP INTERPOSITION—W. Walters and L. Tama. *Arch. Surg.*—Vol. 82:625 (April) 1961.

On rare occasions, troublesome symptoms developing after operation on the stomach require additional surgical procedures. This occurs in spite of careful adaptation of the original procedure to the type of patient. An infrequently used procedure, interposition of a jejunal loop, as described by Henley, which appears to have its best applications in such cases, was employed for a patient with severe symptoms after extensive gastric resection and Billroth II anastomosis. Results were good.

* * *

CHRONIC RINGWORM OF THE NAILS: LONG-TERM TREATMENT WITH GRISEOFULVIN—C. J. Stevenson and N. Djavahizswili. *Lancet*—Vol. 1:373 (Feb. 18) 1961

Griseofulvin was given orally for one year to 50 patients with chronic onychomycosis of the feet due to *Trichophyton rubrum*—unless the infection cleared sooner. The nails cleared of infection in 20 patients, but four patients still had fungus in the toewebs. After 15 months' treatment of 14 patients with toenail infection, eight patients still had fungus in the nails and one in the skin only. Of 21 patients cleared of fungus (toenails and skin), fungus was found in one or other of these sites within three months of stopping treatment. By contrast, in 38 of 41 patients in the same trial, the fingernails were cleared of infection within one year of starting treatment, and no relapse occurred. Laboratory data are given, and alternative treatment is discussed.

* * *

THE DOCTOR'S PLACE IN THE PATIENT'S HOSPITAL—S. T. Hayward. *Lancet*—Vol. 1:387 (Feb. 18) 1961

The author outlines the evolution of the concept of the "patients' hospital"—orientated not toward authority but toward the patients' needs. Doctors' needs, in attempting a cure in all patients, and the overvigorous therapeutic "assault" on the patient are examined. The not infrequent necessity of allowing patients to be ill for long periods is stressed. Rejection of the patients' complaints, resulting in premature discharge and a denial of chronicity, is criticized. The patient-oriented staff team includes both the administrative and the maintenance workers. Adequate communication depends on team relationship. The doctor functions variously as: (1) the traditional doctor, (2) a source of moral support and psychotherapy, (3) a team leader, and (4) a community adviser dealing with conflicting community expectations. The preferring of a small general hospital unit to a mental hospital may involve a subconscious need to deny the existence of chronic psychosis and may lead to its neglect.

* * *

NEUROVASCULAR COMPRESSION SYNDROMES OF THE SHOULDER GIRDLE—Louis M. Rosati, M.D., and Jere W. Lord, M.D., both Professors of Clinical Surgery, New York University Post-Graduate Medical School; and Attending Surgeons, Bellevue and University Hospitals, New York. (Modern Surgical Monographs 3, I. S. Ravdin, M.D., Editor in Chief; Richard H. Orr, M.D., Consulting Editor.) Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1960. 168 pages, \$7.25.

The authors have organized the neurovascular compression syndromes of the shoulder girdle into three separately defined entities. They review with simple and readily

(Continued on Page 56)



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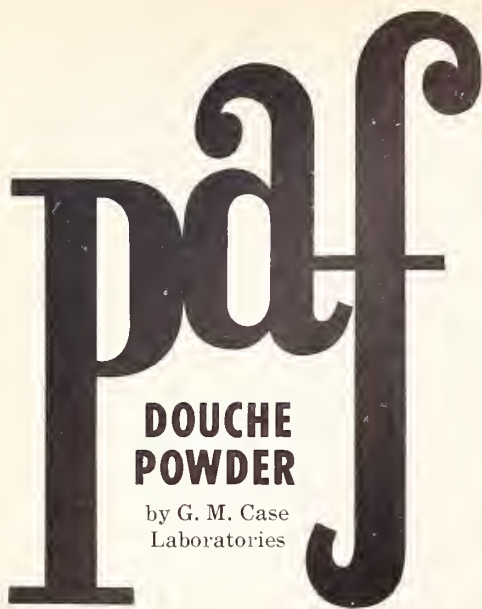
to observe that nitrofurantoin [FURADANTIN] showed a consistent in vitro effectiveness
against the bacteria tested throughout the four year period, thus revealing negligible develop-
ment of bacterial resistance, if any, through the years." Jolliff, C. R., et al.: Antibiot. Chemother. (Wash.) 10:694, 1960.

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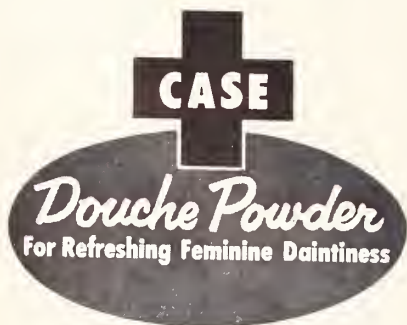
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Radiation Effects Reviewed By AEC Health Physicist

There is increasing evidence that exposure to low levels of nuclear radiation over prolonged periods is not harmful to human beings, an Atomic Energy Commission health physicist said recently.

Hugh F. Henry, Ph.D., of the Union Carbide Nuclear Co., Oak Ridge, Tenn., discussing radiation in the May 27 *Journal of the American Medical Association*, said:

"A significant and growing amount of experimental information indicates that the over-all effects of chronic exposure (at low levels) are not harmful."

The harmful effects of penetrating radiation generally involve changes in the life span or in body organs or processes, Henry said. If radiation is harmful, he said, there may be a shortening of life or the individual's efficiency may be reduced for a long period.

"There is no evidence that radiation produces a general disability of man or animals, except as the life span is also affected," he said.

Undoubtedly, a sufficiently large dose received in a few minutes will reduce the life of any individual to only a few days, Henry said. However, he said, information involving lifetime exposure is available only as a statistical result from very low-average exposures.

From a review of pertinent studies of low-level radiation, he drew this conclusion:

"The preponderance of data better supports the hypothesis that low chronic exposures result in an increased longevity than it supports the opposite hypothesis of a decreased longevity.

"Apparently the most pessimistic implication of the experimental data is the conclusion that there is a radiation exposure threshold level below which, as an over-all consideration involving somatic injury, radiation exposures may be safely received."

Only a few statistical studies on the genetic effects of radiation have been attempted in man, Henry said. Current opinions are not based on experimental evidence and any conclusion "must necessarily be based largely upon speculation," he said.

PNEUMOTHORAX ACCOMPANYING STAPHYLOCOCCAL PNEUMONIA IN PATIENTS TREATED WITH STEROIDS—K. H. Olsen and F. Quaade, *Lancet*—Vol. 1:535 (March 11) 1961.

Pneumothorax, with almost no subjective symptoms, complicated staphylococcal pneumonia in four patients who received steroid therapy for (1) disseminated lupus erythematosus, (2) polyradiculitis, (3) staphylococcal sepsis, and (4) acute leukemia. Although steroid therapy can hardly be thought to cause pneumothorax of itself, a statistical survey showed this complication to be commoner among patients who received steroids than among those who did not, and it also suggested that steroid medication may be a contributory cause of pneumothorax in patients with staphylococcal pneumonia. In such patients steroid therapy can completely cover up the symptoms of pneumothorax.

California M E D I C I N E

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

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Volume 95

JULY 1961

Number 1

Oliguria in Surgical Patients

LEONARD ROSOFF, M.D., and CLARENCE J. BERNE, M.D., Los Angeles

A SEVERE REDUCTION in the formation of urine does not necessarily indicate a pathological state, but the early detection of oliguria is essential to the proper management of a seriously ill patient. Oliguria is an extremely valuable index of compensatory vasoconstriction secondary to the acute hypovolemia that characterizes surgical shock.

Oliguria is not a rigid term, for normally there is a wide variation in urine output. Anuria (zero output) is a rarity and usually indicates a mechanical obstruction to urine outflow or a massive vascular lesion, such as bilateral renal infarction or aortic occlusion. Under normal conditions, approximately 1 ml. of urine leaves the collecting ducts of the kidneys per minute; however, in the presence of very low water intake a urinary output of 500 ml. in 24 hours is considered volumetrically adequate (although this is, relatively, oliguria), if the concentration is high. A urine output of less than 400 ml. in 24 hours (about 17 ml. per hour) is definite oliguria.¹¹ A surgical patient seen initially with a urine output less than 17 ml. per hour must be considered definitely oliguric on the basis of hypovolemia and vasoconstriction. Equally indicative of acute hypovolemia is the sudden fall in hourly urine output in a normotensive postoperative patient whose output is being monitored with an indwelling catheter. This is usually the first clear objective indication of the situation.

• The correction of the various causes of diminished urinary flow is of utmost importance in the preparation of patients with acute surgical conditions for operation. It has been demonstrated that adequate evaluation and correction of these factors are effective in reducing the high mortality accompanying severe trauma, late intestinal obstruction, rupture of an abdominal viscus and other surgical emergencies. The proper use of whole blood, plasma and saline is essential in the correction of hypovolemic states encountered in these conditions. This must be accomplished in most instances before surgical correction of the underlying disease is undertaken. Urinary flow is a valuable guide as to the effectiveness of replacement therapy.

Oliguria after operation may result from a continuation of the factors causing the diminution of urinary flow before operation. The treatment used in the correction of the hypovolemia, as well as the surgical procedure, may contribute additional factors productive of a diminished urinary flow in the postoperative period.

In an analysis of the causes of an acutely diminished output of urine, the primary consideration is recognition of factors that produce ischemia in a kidney. If these factors are present and are not reversed, the prolonged ischemia and anoxia may produce acute renal failure, especially if there is associated sepsis. Oliguria, as a result of oligemic hypotensive renal ischemia, coexistent with severe systemic infection, usually denotes such impending renal failure. Renal resuscitation instituted upon early detection of the oliguria will effectively reduce morbidity and mortality. Such resuscitation is de-

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Presented as part of a Seminar on Recent Advances in the Management of Hypovolemic Shock before the Section on General Surgery at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

pendent upon correction of the decreased blood volume.

Reduction in glomerular pressure and rate of glomerular filtration with decreased urine formation is the primary effect of a diminished renal blood flow. The causative hypovolemia may be accompanied by a normal and, later, a lowered arterial systolic pressure. Although the peripheral systolic arterial pressure may be at normal levels because of generalized compensatory vasoconstriction, hypovolemia has a selective precocious vasoconstrictive effect on the kidney, with resulting early renal ischemia. Frequently in this situation the existence of normotensive shock is indicated by the presence of oliguria.

In addition to oliguria, other clinical features aid in the recognition of compensated shock.² In this latter situation when the patient with a normal systolic pressure in the supine position is then placed in a sitting position, there is usually a sharp reduction in the brachial blood pressure, often accompanied by vertigo or syncope. The radial pulse volume is decreased and peripheral veins are contracted. The feet are cool and pale. Oliguria associated with such findings heralds arterial hypotension.⁸ Therefore, volumetric measurements of urine output usually reveal acute hypovolemia earlier than the sphygmomanometer. The usual clinical stigmata of "shock," such as arterial hypotension, tachycardia and cold sweaty skin, are findings characteristic of decompensated shock.

Correction of reduction in effective circulating blood volume takes precedence in the management of a hypovolemic patient. Operative procedures should not be undertaken until the circulating blood volume has been restored to near normal, except in event of uncontrollable hemorrhage. The restoration of good urine output is an excellent parameter of the adequacy of repletion.

POOLED EXTRACELLULAR FLUID

It is customary to refer to the fluids and electrolytes in the body as existing in two major compartments, the intracellular and the extracellular. The intracellular portion, with potassium the dominant cation, constitutes approximately two-thirds of the body water. The remaining one-third of the body water, predominantly a sodium solution, is extracellular, and is largely located interstitially and in the vascular compartment. The extracellular fluid compartment also includes fluids contained in special systems and "potential" body spaces—gastrointestinal, cerebrospinal, ocular, peritoneal, pleural, pericardial and synovial. The fluid in these latter areas is "transcellular"⁶ and is of slightly different composition than the interstitial fluid and plasma

because of restricted diffusion and the active secretion of the cells lining these areas. This normal space might very properly be called the "third space." In current clinical usage, *extracellular* is used to describe the combined vascular and interstitial fluids. The rapid loss of important quantities of these fluids produces acute hypovolemia.

External or visible losses of extracellular fluid due to hemorrhage, vomiting, diarrhea or excessive perspiration are easily recognized. In physical, chemical, thermal and bacterial injuries, acute shifting of extracellular fluid into the region of the injury occurs. Such losses, due to body fluids that are shed internally, are not readily recognized. The overt swelling seen in burns or of an edematous limb in acute phlebitis readily reveals that such acute shifting has occurred. Frequently, losses are totally invisible, as when the internally trapped fluid accumulates as a pool in a body cavity or in tissue spaces.⁹ The terms *third space*, *third compartment*, *obligatory sequestration* and others have been applied to this acutely pooled extracellular fluid. These terms have been of inestimable value in stressing this important concept. However, in some instances the terms have caused confusion in implying that a new anatomical space has been created. Also, the intravascular fluid is frequently designated as third compartment fluid. We prefer the term *pooled extracellular fluid*.

The majority of seriously ill patients with acute lesions requiring surgical operation have an occult loss of extracellular fluid. An example of this is the preperitoneal and intraperitoneal accumulation of dilute plasma secondary to diffuse chemical peritonitis resulting from perforated peptic ulcer. Similar sequestration of fluid also occurs in the tissues around an acutely inflamed pancreas. The trauma of major abdominal operation creates the same effect. In such conditions there is an acute and rapid loss of vascular fluid into the area of injury. This fluid loss results in the compensatory movement of extracellular fluid from noninjured areas into the vascular compartment. Whole blood, dilute plasma, and transcellular fluid such as intestinal contents (water, sodium, potassium) may comprise this pool of fluid, which is static and as unavailable to the organism as if it had been externally shed. Such acute pooling, unless counteracted by restoration therapy, causes a reduction in the amount of circulating blood volume and contraction of the active extracellular fluid compartment. Under such conditions, where a sizable static extracellular fluid pool develops, and whole blood is not lost, hemoconcentration inherently follows. Therefore, in hypovolemia of this type, the hematocrit is a direct measurement of the degree of hypovolemia. If plasma is used for correction, the hematocrit is also

an excellent guide to the volumetric adequacy of restoration of fluid. Unless there is renal damage, the urine output is an index of the homeostatic and physiological restoration of blood volume. Upon eradication of the mechanism that brought about the pooling, reversal occurs, and the pooled fluid re-enters the vascular system. This will be indicated by a consequent increase in urine output.

RESTORATION OF CIRCULATING BLOOD VOLUME

In a hypovolemic or potentially hypovolemic surgical patient, the use of an indwelling urethral catheter to measure the hourly urine output is essential to good care. Also, repeated hematocrit or hemoglobin determinations must be obtained; and it is highly desirable to monitor the venous pressure, which can be done by means of a polyethylene catheter that has been inserted into the subclavian vein via a "cut-down" into a cephalic or antecubital vein. This polyethylene tube is also used for the administration of replacement fluids. Elevated venous pressure, especially in a geriatric patient, may indicate the need of digitalization for probable cardiac failure. The presence of such occult failure may be verified by a positive hepatojugular reflex and a prolonged circulation time.

The clinical evaluation of the patient's disease will indicate in most instances the type of fluid lost and reveal what is necessary for proper restoration (see Table 1). With normal kidneys, and in the absence of diabetes mellitus, an increase of urine flow to 30 ml. or more per hour following replacement usually indicates an important improvement in the circulating blood volume and reversal of sympathetic and hormonal action on the kidney. Hypovolemic hypotension should be treated by blood volume restoration rather than by vasoconstrictors. Such pressor drugs produce renal ischemia and reduced renal blood flow.¹¹

When analysis of the disease mechanisms has been made and the type of fluid loss deduced, replacement may be planned. The fluid deficit may be merely water owing to inadequate intake and may be corrected by the use of dextrose in water, given slowly. Water, sodium and potassium deficits are primarily the result of excess loss of fluid from the gastrointestinal tract. The gastric fluid that is shed as a result of pyloric obstruction caused by duodenal ulcer reduces the blood volume and produces metabolic alkalosis. Initial replacement with dextrose and normal saline solution should be instituted and potassium added as soon as adequate renal function has been demonstrated. Enteric fluid losses due to intestinal obstruction, fistulas or diarrhea are frequently accompanied by metabolic acidosis; the initial repletion fluid of choice is M/6

TABLE 1.—*Differential Diagnosis of Oliguria*

- I. Due to diminished renal blood flow ("prerenal")
 - A. Water deficit
 1. Diminished oral intake
 2. Insufficient parenteral fluids
 - B. Water and salt loss
 1. Vomiting
 2. Gastric suction
 3. Bowel obstruction
 4. Diarrhea
 - a. Bacterial
 - b. Pseudomembranous enterocolitis
 - c. Ulcerative colitis
 5. Gastro-intestinal fistulas
 - a. Pancreatic
 - b. Biliary
 - c. Duodenal
 - d. Small bowel
 - e. Gastrojejunal colic
 - f. Ileostomy malfunction
 - C. Water, salt, and protein loss (plasma loss)
 1. Surface or external
 - a. Burns
 2. Internal
 - a. Traumatic operative edema and effusion
 - b. Peritonitis ("peritoneal burn")
 - (1) Enterogenous
 - (a) Ruptured peptic ulcer
 - (b) Perforative appendicitis
 - (c) Other intestinal perforations
 - c. Pancreatitis
 - d. Intestinal obstruction
 - e. Acute thrombophlebitis
 - f. Acute severe sepsis
 - g. Hypersensitivity reactions (anaphylaxis)
 - D. Whole blood losses
 - E. Mixed losses
 1. Severe wounds and trauma
 - F. Other causes of renal ischemia
 1. Deep general anesthesia
 2. Vasoconstrictor drugs
- II. Due to renal lesions ("renal")
 - A. Acute renal failure ("tubular necrosis") resulting from
 1. Prolonged renal ischemia and anoxia
 2. Renal ischemia complicated by
 - a. Sepsis
 - b. Free pigments
 - (1) Transfusion reactions (hemoglobin)
 - (2) Crushed muscle (hemoglobin and myoglobin)
 - (3) Hepatic insufficiency (bile pigments)
 - c. Chemical toxins
 - (1) Sulfonamides
 - (2) Heavy metal ingestion
 - d. Preexisting renal disease
 - B. Primary nephropathies
 1. Glomerulonephritis
 2. Other parenchymal lesions (rarely such diseases as pyelonephritis, collagen disease and others)
 - C. Massive vascular lesions
 1. Bilateral renal infarction
 2. Aortic occlusion
- III. Due to mechanical obstruction to urine flow
 - A. Blocked catheter
 - B. Urethral obstruction
 1. Bladder neck obstruction
 2. Strictures
 - C. Ureteral obstruction
 1. Accidental ligation
 2. Calculi
 3. Tumors

sodium lactate. Saline solution and potassium are added when the oliguria has been corrected. Virus-free plasma (room-stored according to the method of Allen¹) is now commercially available and its use is strongly recommended to rapidly correct severe acute hemoconcentration. It specifically restores plasma volume lowered from any cause. In the absence of anemia, plasma is preferable to whole blood because it eliminates the danger of viral hepatitis⁴ and reactions, both of which may follow whole blood transfusion.

Plasma is the specific replacement fluid in those conditions in which water, salt, and albumin are lost from the effective circulating plasma. The peritoneal burn in chemical and bacterial peritonitis is accompanied by such losses due to acute pooling. In addition to plasma, M/6 sodium lactate is simultaneously administered volume for volume. As acidosis frequently accompanies these conditions, chloride solutions are avoided, especially if the danger of acute renal failure is anticipated. In the presence of good renal function, Ringer's lactate solution is used.

When plasma restoration is considered necessary for treatment of hemoconcentration, the plasma deficit should be estimated. This is accomplished by using the observed hematocrit and the following formula as suggested by Moore:⁷

$$\text{Blood volume} \times \text{Hematocrit} = \text{Red cell volume}$$

$$\text{Plasma deficit} = BV_1 - \frac{BV_1 \times Hct_1}{Hct}$$

Where BV_1 = Estimated normal blood volume

Hct_1 = Estimated normal hematocrit

Hct = Measured hematocrit

Except for the observed hematocrit, the remainder of the formula requires estimates of normal levels. "Normal" blood volume is estimated to be 7 per cent of the body weight, in nonobese patients, and 42 per cent is used as an average figure for the normal hematocrit.

A 70 Kg. lean male with a perforated duodenal ulcer and a hematocrit of 57 per cent would have the plasma loss estimated as follows:

$$BV_1 = (.07 \times 70,000) = 4900$$

$$\text{Plasma deficit} = 4900 - \frac{(4900 \times .42)}{.57}$$

$$\text{Deficit} = 1300 \text{ ml.}$$

Although it is a gross method of estimation, the formula is extremely helpful in planning plasma therapy. It frequently reveals the need for more replacement fluid than would otherwise have been given. However, whether or not this formula is used, repeated hematocrit or hemoglobin determinations following replacement are excellent guides.

In the presence of hemorrhage, dextran or plasma may be used for initial replacement while awaiting properly typed and cross-matched blood. In such instances, the hematocrit is not an accurate indication of the volume of the intravascular fluid, and other methods of estimation of loss must be utilized. The acute loss of 15 per cent to 30 per cent of the blood volume produces compensated shock, and a 30 per cent to 50 per cent loss results in decompensated shock. Therefore, a patient with symptoms typical of compensated shock should be given approximately one-third of his estimated normal blood volume and should receive one-half of the normal blood volume for compensated shock. When severe acute hypotension has been present for even a very few hours, it may be necessary to replace amounts equal to the entire blood volume. The dangers of incomplete replacement are far more hazardous than those of plethora. With the use of multiple transfusions of citrated blood, it is advisable to add 1 gm. of calcium gluconate for each 1000 ml. of blood used to counteract the citrate effect.

ACUTE RENAL FAILURE

Inadequately corrected hypovolemic vasoconstriction intensified by the action of bacterial toxins and end products¹² results in acute renal failure. This is rarely encountered with extrarenal infections in the absence of renal ischemia. Such tubular damage also occurs as a result of excretion of blood and muscle pigments in the presence of an oliguria.³

When initially calculated replacement therapy has been given and the renal response does not rise well above 20 ml. per hour, a renal loading or infusion test should be performed. An increase in the hourly urine output indicates that replacement has been incomplete and that renal function is present. This test is accomplished by the rapid administration of a replacement fluid. The type of fluid used in the infusion test, as in repletion therapy, is based on the clinical analysis of the type of fluid lost. For hemorrhage, 500 ml. of whole blood is used. For losses of water, salt and protein, 500 ml. of plasma or 1000 ml. M/6 sodium lactate is used. In each instance the infusion should take approximately 30 to 45 minutes and the effect on the urine output noted. Venous pressure should be carefully monitored during this period. Quantitative determinations of urea and sodium concentrations in the urine may aid in establishing the presence of acute renal failure. In an oliguric patient, a pronounced reduction in urine urea and high concentrations of sodium are suggestive of impaired tubular function.³

In cases in which acute renal failure is the cause of oliguria, the basic objective in management^{5,10} is the maintenance of body fluid volume and com-

position at normal levels until the tubular lesion heals and normal renal function returns. Upon diagnosis of this lesion, water intake is immediately restricted. Initially 400 ml. of water plus volumetric replacement of externally lost fluids are administered during the first 24 hours. Water should be given in amounts that will result in a weight loss of a half pound to one pound daily and maintenance of serum sodium concentration at normal levels. If the serum sodium is low, additional water restriction is indicated. Electrolyte losses from the intestinal tract are replaced by physiological solutions of saline.

High caloric intake must be maintained. A patient receiving parenteral fluids on a restricted water regimen may be given 400 ml. of concentrated dextrose daily. The increased dextrose reduces protein catabolism. Drugs excreted by the kidneys, such as streptomycin and digitalis, should be discontinued or limited to avoid toxic levels.

Peritoneal dialysis or extracorporeal hemodialysis is essential for the treatment of symptoms of uremia or potassium intoxication. Recently, the tendency is to institute these measures in four to six days for the prevention of these two situations.

With tubular healing and diuresis, it is essential to measure the daily sodium and potassium losses in the urine. Restoration of the losses guided by this knowledge will prevent serious deficits. The amount of water restored should be somewhat less

than the calculated losses in order to avoid exogenous maintenance of the diuresis.

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Variations in the Natural History of Psoriasis

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PSORIASIS is a common disease of unknown cause. Many modes of therapy have been advocated in the management of this frequently recalcitrant disease. The purpose of this report is to evaluate the natural course of psoriasis in order that the effects of therapeutic agents may be assessed in proper perspective.

Psoriasis is uncommon before the age of ten years and rare before the age of three years. It has been noted shortly after birth⁸ but may not appear until 80 years of age. There is no difference in sex incidence. Different types are delineated largely on the basis of morphologic variations. Standard texts describe such forms as geographic, eczematous, rupoid, guttate, pustular, exfoliative and seborrheic.¹¹ While the usually stated incidence of psoriasis is approximately one and a half to two per cent, the actual incidence is probably somewhat higher, perhaps from 3 to 4 per cent of the population. The higher proportion is more probable when one includes persons with a psoriatic diathesis in whom actual clinical evidence is present for perhaps only one or two short periods, or who perhaps do not show clinical evidence of the disease but might if certain stimuli were brought to bear.

It is helpful for a better understanding of psoriasis if we postulate the existence of a latent phase. This phase may start at birth or possibly later. During this period there is no clinical manifestation of psoriasis, but there may be some aberration already present. Clinical psoriasis emerges from the latent phase regardless of the age at which it appears. Initially the evidence for psoriasis may be only a solitary small asymptomatic patch, or it may appear suddenly in widespread areas. Once clinical psoriasis develops, it may show wide variation in severity but it generally remains clinically evident. Complete remission is not common, but it may occur and it signifies that the patient once again has entered a latent phase.

Stimuli, one or more of which will result in the emergence of "clinical" psoriasis from the "latent" state, are usually the same factors that aggravate clinical psoriasis. One such factor is that of seasonal variation, which has long been known to affect

• Latent psoriasis is a state which exists before the development of clinical psoriasis and wherein probably some as yet undiscovered defect exists. Investigation concerning a group of persons with latent psoriasis might disclose basic aberrations.

The natural course of psoriasis may be altered by therapy. Folic acid antagonists and intradermal corticosteroids may at times eclipse psoriatic lesions. Oral adrenal corticosteroids may prove morbidistatic but on discontinuance a rebound flare may occur which is both protracted and recalcitrant. Antimalarial agents when employed as therapy for coexistent arthritides may cause psoriasis to become more severe.

The Goeckerman regimen which employs topical tar and ultraviolet light therapy produces in some 75 per cent of patients a prolonged remission. As it is safe and repeatable it is favored for the usual severe case of psoriasis.

Psoriasis therapy is better assessed by considering its effect on the natural evolution of the disease.

psoriasis. Thus clinical psoriasis may become aggravated or first appear during the winter (Chart 1).

Clinical psoriasis may initially appear following a laceration. Similarly it may appear in the laceration site of previously uninvolved skin in a person with clinical psoriasis (Chart 2). This is an example of the so-called isomorphic or Köebner response⁵ in which dermal injury incites a response of psoriasis in the injured area. Acute sunburn, the irritant effect of adhesive tape, and numerous other stimuli can "trigger" this response in psoriasis. Stressful circumstances (Chart 3) have repeatedly been observed to coincide with the initial evidence of psoriasis and to aggravate preexisting psoriasis.

A gain in weight is deleterious in that it increases the extent and severity of psoriasis (Chart 4). In

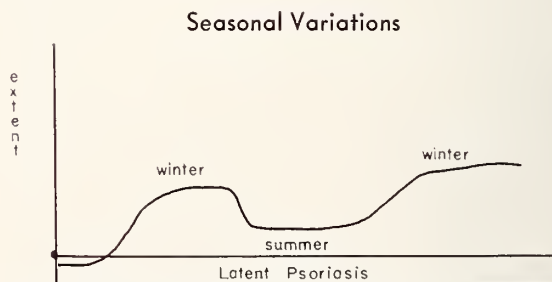


Chart 1.—Natural history of psoriasis. There are alterations in psoriasis corresponding to seasonal change.

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Supported by a grant from the John A. Hartford Foundation.

Chairman's Address: Presented before the Section on Dermatology and Syphilology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Laceration

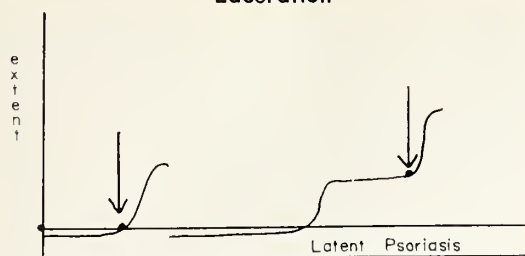


Chart 2.—Natural history of psoriasis, Koebner response to laceration. As shown, this may result in initial appearance of psoriasis, or in a new plaque in preexisting clinical psoriasis.

Weight Gain

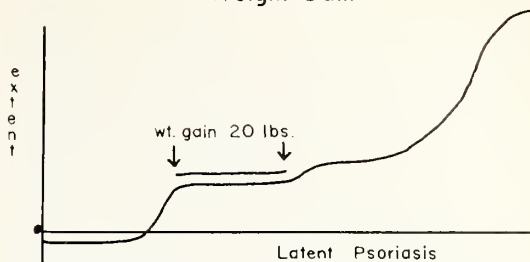


Chart 4.—Aggravation of existing psoriasis by excessive weight gain in a two-month period.

Stress

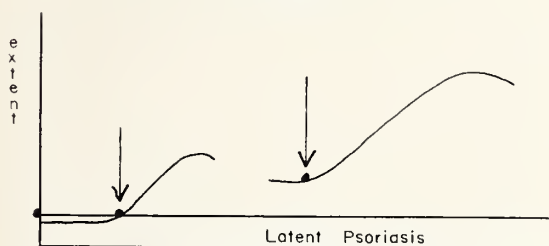


Chart 3.—Stress may either initiate or aggravate psoriasis.

Infection

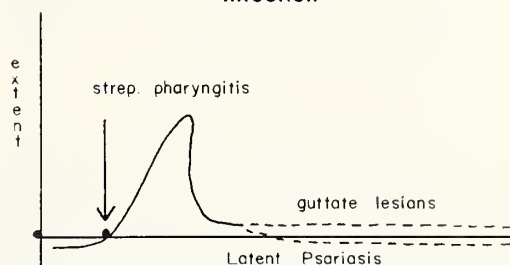


Chart 5.—Initial psoriasis following acute streptococcal infection in patient ten years of age.

approximately 10 per cent of patients the initial psoriatic lesions develop following or coincident with excessive increase in weight.³ This is analogous to the situation in which diabetes mellitus becomes clinically manifest following a gain in body weight. Similarly both clinical diabetes and clinical psoriasis may regress to subclinical or latent phases upon reduction of the body weight. In either instance the abnormal physiological pattern is probably "under cover" and having the potential to again manifest itself in a recognizable form.

Acute streptococcal infections such as otitis media, pharyngitis, and cellulitis not infrequently herald the initial clinical manifestations of psoriasis^{9,10} (Chart 5). The eruption so induced is often explosive in onset and consists of minute droplet-like patches over the entire body. Psoriasis of this type may resolve rapidly and even completely, or it may linger in several sites for an indefinite time following the eradication of the infection.

While the factors of season, weight gain, infection, dermal injury and stress are well authenticated, there are doubtless other as yet incompletely understood natural factors which influence the course of untreated psoriasis. Hormonal, genetic, and environmental aspects are of great influence but need more elucidation.

Delineation of the concept of latent psoriasis is not yet supported by biochemical evidence. Nonetheless it is fair to speculate that a person with latent

psoriasis may well have biochemical aberrations long before the appearance of initial clinical psoriasis. The surface skin fat from uninvolved skin areas of patients with psoriasis has a decreased esterified cholesterol level¹⁵ and such skin areas also have an abnormal sterol present in the epidermal lipid.¹⁴ It may well be that these changes are to be found in latent psoriasis. Analysis of psoriatic scales shows large amounts of both ribose and uracil as breakdown products of ribonucleic acid.¹⁷ It is possible that skin scrapings from persons with latent psoriasis would show such changes. There are a number of biochemical aberrations in psoriasis of which we are aware. It is possible that these aberrations are of a serial nature, one following another in definite sequence. The initial biochemical alterations of psoriasis might be found by a study of patients with latent psoriasis. Difficulties of identifying a group of persons with latent psoriasis would be encountered but could be successfully met by carefully choosing young persons with a strong genealogic bent for psoriasis. Months or years later clinical psoriasis would develop in some members of such a group, thus giving evidence of their former latent status.

The development of clinical psoriasis is at times followed by complete remission. The shift from latent to clinical psoriasis usually heralds a persistent form which waxes and wanes in severity, but rarely shifts to the latent period. Less commonly in

the lifetime of an individual there are several shifts. Thus a person with psoriasis may show an initial transition from the latent to clinical phase, then a return to the latent phase for a time, and then clinical recurrence. These transitions are "natural" in that no medicinal agents bring them about. The natural evolution of clinical psoriasis often depends upon whether psoriasis becomes evident because of one of the "triggering stimuli" or whether it appears to develop spontaneously. If one or more stimuli are responsible, it may well be that correction or reversal of these will effect a change from a clinical to a latent phase. Such a change, which may be referred to as a remission, does not require medicinal agents. If known stimuli seem not to have been responsible, then the prognosis for non-medicinal remission is quite poor.

In the light of our present knowledge there are a few other observed facts helpful in the predication and prognostication of psoriasis. Thus the earlier in life that psoriasis becomes clinically manifest, the poorer the prognosis for either spontaneous or therapeutic morbidistasis. A strong genetic background also generally suggests an unfavorable course.¹ Perhaps the form of psoriasis which may most often revert to a latent phase is the acute guttate variety following streptococcal infection. The diffuse psoriatic erythroderma is a variety that rarely clears completely.

THERAPEUTIC ALTERATIONS IN THE NATURAL HISTORY OF PSORIASIS

In this review of therapy, only agents that have a fairly consistent reproducible effect on psoriasis will be considered. These are: The folic acid antagonists, antimalarial drugs, adrenal corticosteroids and the Goeckerman regimen (the use of tar topically in conjunction with ultraviolet light therapy).

Folic acid antagonists

One of the actions of aminopterin is the blockage of the normal conversion of folic to folinic acid. Transmethylation reactions mediated by folinic acid are thus impaired and as a result the biosynthesis of purines and pyrimidines and consequently of nucleic acids is inhibited. The magnitude of such inhibition is correlated with the rate of the metabolic processes involving nucleic acid synthesis, and is thus great in the rapidly proliferating epidermal cells of psoriasis.^{2,7,12,13}

While aminopterin reduces psoriasis by its cytotoxic action, it has not been observed to alter the natural history of psoriasis, for when it is discontinued psoriasis reappears as before. Its effect may be considered as suppressive to epidermopoiesis. The discontinuance of aminopterin usually results

Effects of Folic Acid Antagonists

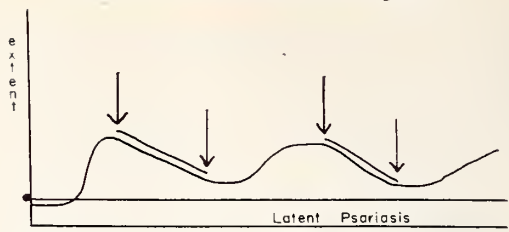


Chart 6.—The pattern of response to aminopterin as shown by one patient. Psoriasis recurred within a few weeks to pretreatment states following each course of therapy.

Deleterious Effect of Chloroquine

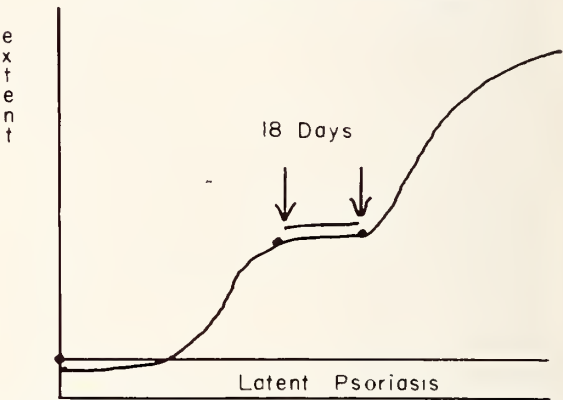


Chart 7.—Sudden spread of psoriasis due to antimalarial therapy.

in a return of psoriasis to the pretreatment clinical state (Chart 6).

Antimalarial drugs

The observations of Ziprkowski¹⁹ concerning antimalarial agents and their effect on psoriasis have been substantiated by Sulzberger and Witten¹⁸ and other investigators. Approximately 18 days after the initiation of atabrine or chloroquine therapy 75 per cent of patients with psoriasis will develop a severe generalized exfoliative psoriatic erythroderma (Chart 7). A small proportion of such patients may eventually have a clearing of the lesions for several weeks to several months. Even when this occurs, plaques of psoriasis tend to recur in the sites where they existed before the use of the antimalarial drugs. It is essential to know of the potential hazard of the antimalarial drugs, since many patients who receive them for the treatment of rheumatoid arthritis may also have psoriasis.

Adrenal corticosteroids

The injection of adrenal corticosteroids into plaques of psoriasis causes some plaques to thin out or resolve.⁶ In some instances a brown macular patch with undesirable subcutaneous atrophy results

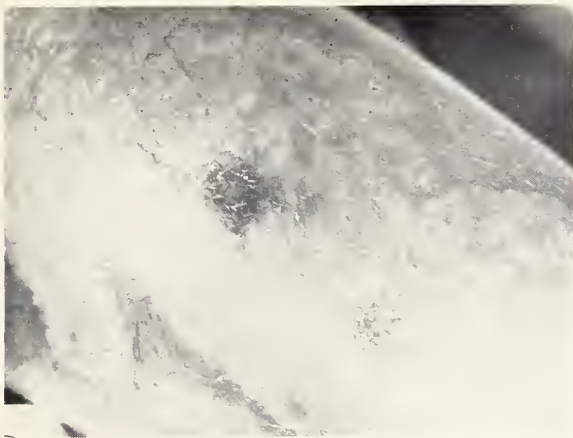


Figure 1.—Site of atrophy in a patch of psoriasis following intradermal corticosteroid injection.

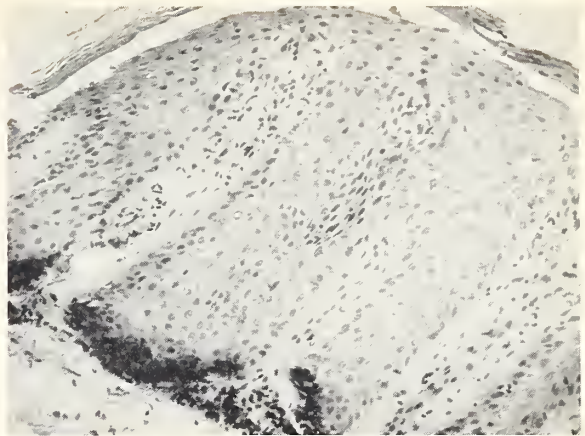


Figure 2.—Typical histopathologic appearance of psoriasis adjacent to intradermal corticosteroid injection site. Reduced from $\times 500$.

(Figure 1). Figure 2 shows the typical histopathologic structure of a psoriatic lesion in a biopsy specimen taken from a site adjacent to the point of intradermal triamcinolone injection. Figure 3 shows psoriasis-free tissue taken from the site of injection of 1 cc. (25 mg.) of triamcinolone diacetate suspension diluted with an equal part of normal saline solution. Dermal atrophy also is shown. Such atrophy does not consistently occur, but it is unfortunately frequent. Intraplaque injection has a local morbidistatic effect for a time, "erasing" only the lesion treated. The natural course of the disease continues except for the particular locale or locales injected, and it may reactivate there later.

If corticosteroids are administered orally in sufficient amounts (generally 12 to 20 mg. initially per day with a daily maintenance dose of 4 to 12 mg. of triamcinolone or its equivalent) these agents are morbidistatic in action, reducing psoriasis in its clinical extent and severity.^{4,16} On discontinuance, the eruption at times recurs in much the same magnitude as it existed before treatment. However, in about 50 per cent of the patients in whom such steroid therapy has been used there is a profound alteration in the natural course of psoriasis (Chart 3). The resultant poststeroid psoriasis may be far more extensive than that which existed before the use of the steroid; and it is often exudative and diffuse. Two varieties, both attended by extreme itching, have been observed, one being of guttate type and the other of exfoliative erythrodermic type (Figure 4). Biopsy of a lesion of the poststeroid-flared psoriasis (Figure 5) may not show the histopathologic structure that psoriasis usually shows. The characteristic microscopic features of psoriasis, such as suprapapillary thinning, regular acanthosis, clubbing of rete pegs, parakeratosis, dilated capillaries and occasional Munro abscess (Figure 2)



Figure 3.—Histopathologic features at site of intradermal corticosteroid injection. Reduced from $\times 200$. Note the absence of pathologic features of psoriasis and dermal atrophy.

are not present. Instead there is a decided aggregation of inflammatory cells in the upper stratum Malpighii, spongiosis and irregular parakeratosis. There is also less evidence of suprapapillary thinning, of regular acanthosis or of capillary dilation. The person with steroid rebound psoriasis unfortunately faces a long, difficult and discouraging period during which no treatment is beneficial.



Figure 4.—The clinical appearance of severe diffuse eczematous psoriasis which may rebound following oral adrenocorticosteroids.

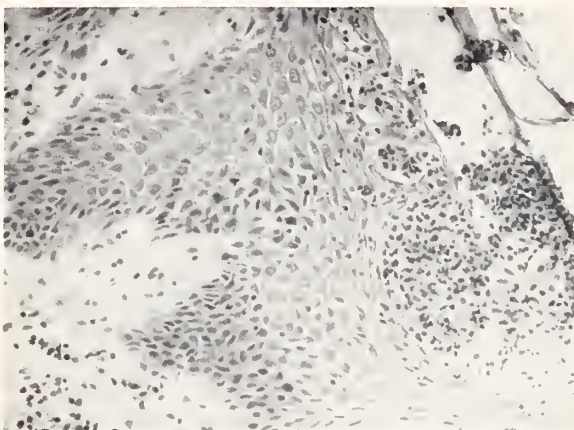


Figure 5.—Atypical histopathologic features occurring in poststeroid rebound psoriasis. Reduced from $\times 500$.

The Goeckerman regimen

The treatment of psoriasis by use of the Goeckerman regimen has recently been surveyed in 50 patients treated on the Stanford Dermatology Service in the past two years. There are two distinct response patterns to the Goeckerman program (Charts 9 and 10).

The Goeckerman regimen brings about a gradual resolution of psoriasis. The individual lesions progressively regress, usually by the large lesions breaking up into smaller ones which subsequently fade. In about one-fourth of patients treated for three to five weeks there is a gradual recurrence of lesions after therapy is ended. In some three-fourths of patients the Goeckerman regimen results in resolution of almost all the lesions and is followed by a stable period during which no additional lesions or only a few appear for five to eighteen months, sometimes even longer. This response represents a striking alteration in the natural course of psoriasis by therapy.

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Effects of Adrenocorticoid Hormones

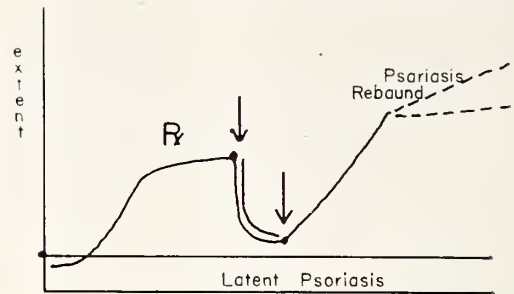


Chart 8.—Severe psoriasis rebound following oral adrenocorticosteroids. (Steroid therapy may have been administered for only a few weeks or sometimes for years before discontinuance and rebound.)

Tar-Ultraviolet Light Treatment

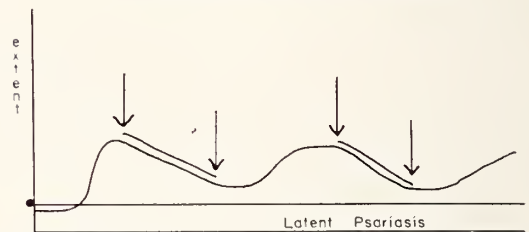


Chart 9.—Response to Goeckerman Therapy (tar-ultraviolet light) in 25 per cent of patients. The periods of therapy (distance between arrows) are generally three to eight weeks.

Tar-Ultraviolet Light Treatment

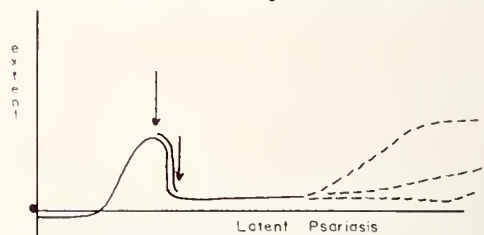
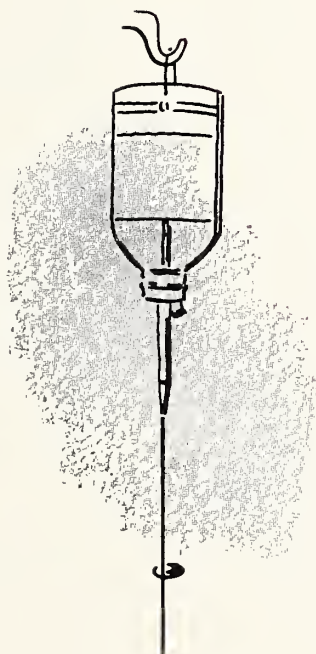


Chart 10.—Response to Goeckerman Therapy (tar-ultraviolet light) in 75 per cent of patients. (See text.)

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Parkinson's Syndrome, Depression and Imipramine

A Preliminary Report

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OBSERVATION of the effects of imipramine (Tofranil®) on patients with involutional depression who were undergoing psychotherapy led to a trial of the drug in patients with Parkinson's syndrome.

As to the patients who were receiving the drug during psychotherapy, the symptoms that seemed to improve first and most dramatically were those of psychomotor retardation, inertia and problems in decision-making and action-taking. Changes in these functions appeared pertinent to Mettler's descriptions of 47 patients with Parkinson's disease in Greystone Hospital,² 34 of whom appeared to be rather uniform as to reasons for hospitalization: Problems in decision-making (which Mettler called "pseudorigidity" of personality functioning), depression, inaccessibility, somatomotor deficits of diffuse type resulting in inability to react to the environment and lack of motivation to behave adaptively. Mettler felt these people resembled animals that had striatal lesions and could not initiate and perform movements necessary to remove themselves from noxious stimuli, even though they had intact sensorium and functioning motor system. He called this a defect in "prohairesis." It was this rather loose but stimulating conceptual framework that led to our more or less empirical trial of imipramine for Parkinson's disease.

METHODS AND MATERIALS

Our experimental design has gone through three phases: The first, involving seven patients, consisted of just the use of the drug, starting with 100 mg. (four tablets) per day and graduating to 250 mg., without otherwise departing from the regimen the patients were following at the time. We observed the patients weekly for four or five weeks, and then at gradually lengthening intervals. The second phase, involving eight patients, consisted of the use of psychological tests before and after a month's trial of the drug, a three-page physical therapy check list before and after, and objective neurological examinations including timed, rapidly alter-

• Patients with Parkinson's syndrome whose major symptoms are akinesia, rigidity, inertia, depression, irritability and failure of adaptation rather than tremor appear to benefit in a global way from therapy with imipramine. Patients without much over-all functional impairment do not show this improvement. The hypothesis is offered that motivation to move and ability to move are perhaps neurologically as well as psychologically related functions.

nating movement of each hand for thirty seconds. The third phase, not yet completed, consists of the same methods as the second, but this time using a double blind technique and including 20 patients. Since this drug appears to have its most pronounced effect on certain kinds of patients with Parkinson's syndrome, this third phase is being carried out in an attempt to find a way to predict which patients will benefit. The double blind study is being done on patients unselectively, just as they come to our clinic.

The present report deals with a group of 15 patients made up of those who had been rejected for operation, those who had not been helped by other drugs and those who in general presented clinical management problems.

RESULTS

Following treatment, the patients appeared to be divided into three groups.

Group 1

The first group of five showed mild neurologic improvement. They could perform rapidly alternating movements 10 to 30 per cent better than before treatment, could write better, sew better, get up and sit down with greater ease and walk more freely, and in general had moderate improvement in fine movements and manipulations. Tremor was infrequently and only slightly changed by this drug.

The mild improvement occurred in patients with minimal defect in over-all functioning level and in patients who appeared both in their tests and interview to be least psychologically disturbed. This moderate but definite change in akinesia and rigidity

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Submitted April 7, 1961.

perhaps is related to Himwich's¹ recent observation that imipramine reverses akinetic, staring states in animals induced by injections of reserpine. Biochemical studies thus far, however, have shown that this drug does not alter monoamine oxidase or serotonin metabolism in brain tissue.³

Group 2

The second group of five were those who failed to get any improvement; some actually got worse. These patients became somnolent, manifested an increase in rigidity, developed akinetic states, fell more often and in general functioned more poorly. Two of these five were postoperative thalamotomy patients (although one of our three postthalamotomy patients made the improvement described for Group 1), and two of them were of the postencephalitic type. Three of the patients in Group 2 looked in many respects like those in the group with dramatic, over-all improvement that are described below, but they did not improve. The psychological tests before and after treatment either showed no significant change or became more abnormal. Tremor was unchanged.

Group 3

The third group of five manifested a most dramatic, over-all improvement. Four of the five had been considered candidates for custodial hospital care by their relatives. The fifth was a man who was about to give up a thriving business because of his inability to talk, walk and function. Four of the five had to have care of a nursing type. They could not dress, cook or keep themselves clean. Two of the five needed someone else helping them on and off the toilet, feeding them and turning them in bed. Severe rigidity and akinesia rather than tremor characterized this group. They were quite depressed, and in general out of contact with their environment in an adaptive sense. They were irritable, could not make decisions and were a burden on their relatives. They had great difficulty in starting, stopping and turning, in performing repeated or fine movement, in rising from a chair; and occasionally they had trouble in swallowing and talking. These patients were not good subjects for operative treatment and all of them had received most of the anti-Parkinson disease drugs, singly and in combination, without significant improvement.

Following one to three weeks of imipramine in dosages up to 250 mg. per day, over-all function improved considerably. Relatives called the change a "miracle." The ability of the patients to do timed rapidly alternating movements improved from 100 to 700 per cent. They all began to care for themselves. Only one of the patients retained someone to help her, although she was able to feed and dress herself, walk and cook—things she had not done in

three years. One patient had spent his days in bed, and his wife had had to feed and dress him, and clean him after defecation. Three weeks after treatment was started, he was gardening, helping around the house and looking for carpentry work. The businessman moved to a larger location and began addressing and sending out his own mail, which he had not been able to do for three to four years. His ability to rise, turn, start and stop was strikingly improved. In two cases, associative movement with walking returned after it had been absent for several years. Clinical evidence of depression was lifted in these five cases, and indecision, inertia and lack of motivation were reversed. Four patients were receiving imipramine alone and one was taking trihexiphenidyl (Artane®) and imipramine. Tremor became more predominant in two.

Psychological tests revealed that the changes in Group 3 were either one or the other of two orders. Either most of the disturbance seemed much less and depression was ameliorated, or the depression so far as the tests could determine remained unchanged (we speculated probably a long standing characterological one). The patients saw themselves, however, as much less sick, less needing help and as more dominant people.

DISCUSSION

Interpretation of the change in Group 3 is difficult. One must be aware of the placebo effect, especially of an investigational drug, on a disease that is evaluated on the basis of voluntary motor participation. We believe that some "control" of the placebo factor is supplied in the fact that there were many previous trials of other agents. Even so, this aspect will be examined more closely in the double blind part of our study.

Conjecture as to specific modes of action and effects leads to a tangle of neurological and psychiatric variables. One might say that these patients who have used activity as a way of fending off psychological disturbance and especially depression will become psychologically ill when faced with an activity-constricting neurological disease such as Parkinsonism. On the other hand, a depression will certainly make functioning to overcome physical handicaps less likely. Thus, perhaps in these patients, psychological illness (depression) combines synergistically with the akinetic and rigid features of Parkinson's disease.

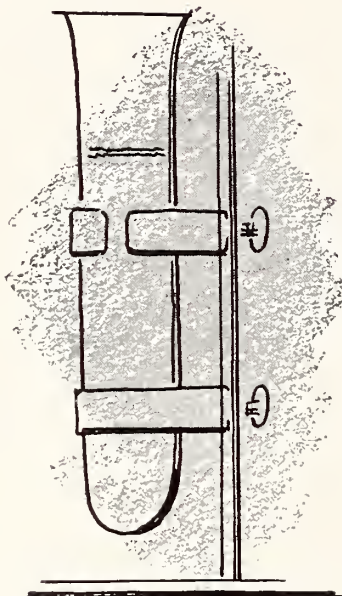
The mild anti-Parkinson effect of this drug or alleviation of depression does not seem to account entirely for the changes we have observed. One might wonder if this drug works through a diffuse neuronal system (the extrapyramidal system) which, in its upward and downward extensions, influences rigidity, akinesia, motivation and mood conjointly.

Speculations aside, it appears that there is a group of patients with predominantly akinesia, rigidity, inertia, depression, irritability and severe functional impairment that are helped in a rather remarkable way by imipramine.

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Newer Concepts in the Management of Tetanus

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NEITHER THE INCIDENCE of tetanus in California nor the mortality rate has declined significantly since the early 1950's.⁷

The obvious answer to the tetanus problem is toxoid immunization, as was proven conclusively in World War II,¹² but how to achieve this in the population as a whole has not yet been solved. Recent surveys by local health departments have shown as many as 60 per cent of the children in some segments have not been immunized.

The mortality rate has not been satisfactorily improved by either the advent of antitetanic serum therapy or antibiotic therapy.² In recent months the literature has had many reports of new therapeutic agents which seem to suggest a new era of tetanus management, based on relief of the specific pathologic abnormality-spasm.* Altemeier, after reviewing much of the world literature and evaluating his vast clinical experience, concluded that 70 per cent of the tetanus deaths were due to respiratory failure associated with tetanic convulsion.² Within the pediatric age group this percentage seems high, for clearly problems such as atelectasis, pneumonia, sepsis and electrolyte imbalance can quickly influence the outcome in a precariously balanced infant tetanus patient. Spasm, however, is the primary problem in the management of tetanus.

DIAGNOSIS

The cardinal manifestation of tetanus is an increased level of muscle tone and irritability. Superimposed are painful severe muscle spasms. Prodromata include restlessness, irritability, insomnia, headache and sometimes mental exhalation.

Specific signs due to hypertonicity are:

1. Trismus. This sign always means tetanus until another diagnosis can be established, and treatment should be begun immediately.
2. Awkward spastic gait.
3. Spasm of facial muscles—*risus sardonicus*.
4. Spasm of pharyngeal muscles with dysphagia.
5. Spasm of neck and back muscles, eventually proceeding to opisthotonus.

Presented before the Section on Pediatrics at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

*References 1, 4, 8, 11, 13, 14, 18, 19.

• The problem of tetanus in California is re-emphasized. The addition of new drugs holds promise that the mortality and morbidity in pediatric tetanus will be reduced. Illustrative cases are presented to emphasize this changing concept.

Diagnosis and treatment are outlined. Meprobamate is incorporated in the three-phase treatment plan discussed.

Further evaluation of this drug is essential with emphasis on establishment of pediatric dosage schedules and to further confirm reliability.

6. Spasm of abdominal muscles. Can simulate a surgical abdomen.

7. Spasm of sphincter. Difficulty initiating micturition, and constipation.

Superimposed on the above hypertonic features are acute, extremely painful tonic spasms easily triggered by external stimuli (noise, touch, light, drafts).

The involvement of the muscles of respiration produce laryngospasm, diaphragmatic spasm and intercostal spasm. These ultimately lead to collections of secretions, anorexia, pneumonitis and atelectasis.

Vital centers in the medulla can be involved, with irregular, gasping respirations, vasomotor collapse, hyperthermia and diaphoresis.

It is essential that physicians be aware of the possibility of tetanus and alert to its diagnostic peculiarities.

CHANGES IN METHODS OF MANAGEMENT

Two cases are summarily presented here to contrast two methods of management. The patients were of different ages but the similarity of onset and the severity of symptoms provide some basis for contrast.

CASE 1. The patient was a two-year-old girl. The diagnostic features were classic—irritability, trismus, opisthotonus and massive spasms. Treatment was begun promptly and included the recommended standard "textbook" approach with routine tracheostomy, intravenous administration of fluids, antitoxin for four days, and antibiotics. The primary spasms were treated with intravenous Nembutal® and Flaxedil® (a synthetic curariform drug). For 31 days the patient was in coma. For 20 days she had opisthotonus and trismus. She required special nurses and an immediately available physi-

cian for 34 days. Complications were the rule—hyperthermia, hypothermia, apnea (drug-induced on occasion), pneumonia, atelectasis, vasomotor collapse and congestive heart failure.

The patient recovered without residual impairment or effect on growth or development.

CASE 2. The patient, a boy 10 years of age, for two days had tongue-biting, difficulty in beginning micturition, and abdominal pain so severe that a roentgenographic study of the upper gastrointestinal tract was carried out. No abnormalities were noted. Results of several examinations of the blood were within normal limits. Then the back and neck became stiff and trismus developed. A lumbar puncture was carried out but no abnormalities were noted. Upon examination in a hospital the patient was observed to be tense and irritable. Also noted were arched eyebrows, trismus, oral lesions (from biting), opisthotonus and abdominal rigidity. After skin testing, tetanus antitoxin and antibiotics were administered. Sedation with amytal was started on the fourth day of illness, then with phenobarbital and finally with meprobamate without appreciable change until the dosage of meprobamate was raised to 400 mg. every six hours. Within three hours of the first dose of that size, all response to exteroceptive stimuli (light, touch and noise) were gone and with them opisthotonus and trismus. Internal stimuli (gas in bowel, full bladder) continued to produce spasms but they could be anticipated and the patient, readying himself for them, would nonchalantly place a bite block in his mouth to prevent further oral lesions, while listening to a radio account of a baseball game. The course of disease was thereafter uneventful and the result excellent.

In the second case a new agent—meprobamate for intramuscular administration—which shows great potential for reducing the morbidity and mortality was used. It was first clinically tested at Cook County Hospital by Perlstein.^{13,14} The drug seemed specifically to counteract the effect of the toxin on the central nervous system, reducing spasms and associated anxiety. Given intramuscularly meprobamate has the muscle relaxant qualities of curare and mephenesin but a more prolonged action. It has primary effect on the exteroceptive pathways, making light, touch and noise tolerable. The proprioceptive and interoceptive pathways are not appreciably affected but apprehension is significantly allayed. Tetanus toxin, like strychnine, can act on all centers below the thalamus. Both these toxins cause electromyographic changes consistent with central hyperirritability and spontaneous fasciculation.¹³ Berger⁵ showed that meprobamate protects animals against strychnine seizures.

Seemingly the drug reduces polysynaptic transmission, eventually bringing about electromyographic "silence" with no fasciculations. Related carbamate derivatives given parenterally also seem to have the specificity of action required. Crandall⁹ reported successful use of methocarbamol potentiated with secobarbital and chlorpromazine in controlling spasms of tetanus.

Meprobamate seems to have two advantages over methocarbamol. One is intramuscular rather than intravenous administration, and the other is elimination of the problem of respiratory depression inherent in use of the barbiturates for potentiation.

The incorporation of meprobamate in the overall plan of management of pediatric tetanus seems to make many "textbook routines" questionable.

THREE PHASES OF TETANUS MANAGEMENT

Tetanus management now can be divided into three phases.

Phase I

First of all, treatment aimed at stopping the further elaboration and absorption of the toxin and fixation within the central nervous system.

1. *Antitoxin.* Therapy with antitoxin should be accomplished as soon as the diagnosis is clinically determined. Never should confirmatory cultures from wounds be awaited.

There is not general agreement as to the amount of antitoxin to be given and the time interval. However, after an adequate intradermal test,¹⁶ 50,000 units should be given intramuscularly and 50,000 units given intravenously as soon as possible. There is general agreement that that is sufficient antitoxin therapy and that, so administered, it gives protection for from four to ten weeks.¹⁷

2. *Debridement.* Promptly after clinical diagnosis, delaying only long enough for sedation to be begun, adequate debridement and excision of suspect areas down to healthy tissue should be carried out.

3. *Antibiotics.* *Clostridium tetani* are susceptible to penicillin. Procaine penicillin 600,000 U should be given twice daily for 4 to 6 days and once daily for 4 additional days.

Although debridement and penicillin did not alter prognosis significantly in a series of 202 cases reported by Garcia-Palmieriis and Ramirez,¹⁰ both are unquestionably integral parts of the treatment.

After the acute phase of the disease is past toxoid should be given. Routine toxoid immunizations are successful despite the high titer of circulating antitoxin. Many observers have noted that reinfection with tetanus can occur, the clinical disease conferring no immunity.

Phase II

The second phase of management is the general supportive phase and includes the following:

1. *Intravenous fluid therapy.* Administration of fluids intravenously is essential for the first 36 to 48 hours. Particular care must be exercised in infants in both planning the appropriate total amount and in supplying needed electrolytes. Daily laboratory studies of serum sodium, potassium, chloride, hemoglobin and packed cell volume are needed. Should vasomotor collapse occur, plasmanate, levarterenol and hydrocortisone sodium succinate can be of value. Hemoglobin levels tend to fall and whole blood transfusion may be indicated.

2. *Nutrition.* Feeding, after several days, may be accomplished by gavage. The progression to clear liquids per os, soft diet and finally regular diet follows. Plasmanate can help prevent malnutrition where prolonged intravenous therapy is required.⁶

3. *Enema.* A tap water enema should be given on admission.¹⁴ This later prevents fecal impactions which produce interoceptive stimuli and tetanic convulsions.

4. *Temperature control.* Tetanus toxin can affect the thermogenic centers¹⁴ and produce wide swings of temperature. These can be clinically controlled with the ice water mattress technique monitored with a constant recording thermometer. Some member of the team carrying out this therapy must be familiar with the predictable but very prompt hypothermic effects of the mattress and how to level off at appropriate times.

5. *Nursing.* Twenty-four-hour special nursing by nurses who are skilled in pediatric suctioning techniques and intravenous therapy and who are capable of anticipating complications is needed. The comprehensive care concept with a specially equipped room and highly skilled nurses should be the ultimate goal.

6. *Physician team.* Needed are an anesthesiologist to assist in muscular relaxation and maintenance of adequate ventilation,⁹ a thoracic surgeon for indicated bronchoscopy and tracheostomy and a pediatrician to manage fluids, electrolyte, nutrition and medication. One physician must assume leadership and make all decisions. For the first few days adequate management assumes a 24-hour vigil by the team or their resident counterparts.

The third aspect of treatment concerns the control of spasms and the prevention of pulmonary complications.

The details of care here vary somewhat with the severity of the disease. Pratt¹⁵ provided basic criteria for judging the severity of tetanus:

1. Length of incubation.

2. Rapidity of appearance of generalized spasms after onset of first symptoms. (The shorter the time of incubation and the earlier the symptoms, the more severe the disease.)

3. The physical appearance of the patient on admission.

4. The frequency and intensity of spasms under sedation. (This criterion may now be obsolete with the advent of the carbamate drugs.)

The multiplicity of approaches in drug therapy for control of tetanus spasms is well documented. For years barbiturates have been the mainstay, despite the attendant dangers of cough depression and the hyporeflexia necessary to accomplish muscle relaxation which may lead to respiratory depression and pneumonia.

The addition of curariform drugs seemed at first the answer, but the technical aspects of drug titration and excretion limited their effectiveness. Complete curarization and placement of the patient in a tank respirator, as with patients having bulbar poliomyelitis, also seemed to be reasonable. Tetanus, however, is a disease with muscle spasticity, not flaccidity. This spasticity decreases thoracic compliance and reduces the ventilatory capacity.⁹ The margin of safety thus is too narrow and pulmonary complications are too frequent to make this method totally satisfactory in pediatrics.

Muscle relaxants such as mephenesin held promise but the intravenous route was necessary and the reported complications of intoxication (an alcohol vehicle is required), venous thrombosis and intravascular hemolysis have discouraged acceptance of them.³

After reviewing the literature and particularly the reports from Cook County Hospital by Perlstein, it seems that the drug of choice for tetanus in children is intramuscular meprobamate. Its ability to abolish exteroceptive seizures eliminates the need for a dark quiet room and the avoidance of surface stimuli. More important is the fact that the patient can be aware and communicative. Interoceptive stimuli are not abolished by the drug, but even so the clinician can narrow the area of intensive care to good tracheobronchial toilet and good bowel and bladder performance. Proprioceptive pathways are likewise not blocked, hence avoidance of large joint manipulation is essential.

In children the relief of tension and massive respiratory spasm obviates "routine" tracheostomy. Although the procedure must be held in reserve for very severe cases, in most children it will probably prove unneeded when adequate levels of meprobamate are achieved.

The intramuscular dosage must be fitted to the severity and the duration of illness. As a guide

to beginning treatment, Perlstein recommended giving meprobamate every three or four hours in amounts of 400 mg. for adults, 200 to 300 mg. for children over five years of age, and 50 to 100 mg. for infants.¹⁴

The drug in its polyethylene vehicle is well tolerated intramuscularly even in large doses.

Chlorpromazine and promazine may be required to control visceral stimuli if they are a major problem.

Finally, small amounts of barbiturates still level out actions of the other drugs and in many cases of tetanus should be included in the treatment.

The foregoing principles are a guide. Fundamentally the team treating the patient must continue to fit the treatment to the individual, remaining flexible to all possible complications. However, the new drugs are changing the mortality and morbidity statistics and deserve continued evaluation.

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Treatment of Superficial Fungous Infections

Value and Limitations of Systemic Administration of Griseofulvin

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THE DEVELOPMENT of an antibiotic, griseofulvin, that has been used successfully in systemic treatment of superficial fungous infections has revolutionized dermatologic therapy in this field in the short time it has been available. While superficial fungous infections are not a cause of death, the incidence is high, many cases are extremely chronic, especially when involving hair, nails and feet, and they can cause considerable annoyance and disability.

As with any new drug, improper use will tend to discredit it. It is timely therefore to review briefly the extensive literature that has accumulated in a very short time with reference to the conditions in which it is effective, its proper dosage, the results of treatment, side effects and some personal observations.

Blank and Roth³ of the Dermatology Department of the University of Miami were the first in this country to report the successful use of griseofulvin in fungous diseases of humans. Dr. Blank and the Department of Dermatology of the University of Miami were hosts to an international symposium on griseofulvin and dermatomycosis in October 1959, and the proceedings of this symposium are contained in the May 1960 issue of the *A.M.A. Archives of Dermatology* which is devoted exclusively to this subject.⁹

CONDITIONS BENEFITED BY GRISEOFULVIN

Oral administration of griseofulvin has been reported effective, in general, against the large class of chronic superficial fungous infections of the "ring-worm" group. The drug is completely ineffective against fungi of the yeast group, such as candida (monilia), microsporon furfur which causes tinea versicolor, all of the bacterial infections and most of the deep mycotic infections. Acute inflammatory superficial fungous infections respond more readily to topical treatment. Griseofulvin has revolutionized the treatment of scalp ringworm of all types, and of nail, foot and hand conditions caused by the extremely resistant *Trichophyton rubrum*.

Submitted February 20, 1961.

• Comprehensive studies and numerous clinical reports have shown that griseofulvin orally in a dose of 1 gm. daily is an effective treatment for superficial fungous infections of the skin, hair and nails. The drug is not effective against yeast infections (moniliasis), bacterial infections or most of the deep fungous infections.

Duration of treatment varies with the site of infection, glabrous skin, crotch and scalp responding within four to five weeks. Infections of palms, soles and nails require a considerably longer time, palms healing more quickly than soles and fingernails more quickly than toenails, which may require up to a year of continuous treatment.

Auxiliary measures such as clipping hair, removing infected nail tissue and topical fungicides shorten the duration of treatment.

No serious side effects have been reported. Minor discomforts such as headaches and mild rashes occur in some cases.

Observations of a series of 49 patients with superficial fungous infections, especially hand, foot and nail infections due to *Trichophyton rubrum*, confirmed these reports taken from the literature. Attempts to use a reduced dosage schedule did not prove satisfactory.

It is necessary, therefore, that a diagnosis be established before treatment is begun, since it would be a waste of time and money to attempt to treat conditions which might superficially resemble fungous infections, such as psoriasis, especially of the nails, or contact dermatitis or intertrigo or chronic paronychia due to yeasts. Cultures and direct microscopic examination of scrapings after maceration in 40 per cent potassium hydroxide are invaluable guides for proper treatment as well as for confirmatory evidence of cure.

MODE OF ACTION OF GRISEOFULVIN

The reason many superficial fungous infections are resistant to external therapy is that the organisms are embedded deep in keratinous material where topical applications do not reach. Furthermore, the fungi grow downward at the same rate that epidermis, nails and hairs grow upward, thereby staying beyond the range of surface treatment.

Griseofulvin is a fungistatic but not fungicidal antibiotic derived from at least four species of peni-

cillium.² When administered orally, it is carried by the bloodstream and is deposited within the lower corneous layers,¹⁶ thus placing it in direct contact with the infecting organisms. Experiments suggest that griseofulvin directly intervenes with the synthesis of nucleic acid in the growing hyphae¹² that are in contact with the drug but that the drug is not diffused through the older, more dormant portions of the fungi. Hence, downward growth is halted and the dormant fungous elements are gradually pushed to the surface. If treatment is discontinued too soon, these dormant elements may resume downward growth and the infection becomes reestablished. In patients who have been treated with griseofulvin, spores and abnormal bits of hyphae have been found to persist for as long as 90 days on clinically healed areas.⁷ These phenomena and the observation that griseofulvin is gradually leached out of the upper epidermal layers¹⁶ by perspiration and other means, leaving very little near the surface, suggest the advisability of using topical fungicides concomitantly, especially those containing salicylic acid which mechanically assists in removing the attenuated fungi.

DOSAGE

Various dosage schedules have been tried, but the consensus favors 1 gm. daily in divided doses of 250 mg. each over a period of four weeks to twelve months or more, depending upon the location of the infection. The dosage should be reduced proportionally for children under 12 (10 mg. per pound of body weight).

Scalp, glabrous skin and crotch infections clear the most rapidly, cure often being obtained within four or five weeks. Areas with thicker keratin such as palms, soles and nails require much long periods for clinical and mycological cure, palms responding more quickly than soles or sides of heels, and fingernails more quickly than toenails. Goldfarb and Sulzberger⁸ reported only 2 out of 48 patients with toenail involvement were cured at the end of 10 months' continuous treatment with griseofulvin.

Auxiliary measures reduce the length of treatment. In scalp ringworm, the infected hairs should be cut close or shaved within one or two weeks after beginning treatment. Removal of infected nails should be carried out by scraping, clipping or grinding with a portable dental drill, by softening with strong keratolytic agents or by surgical avulsion.

One exception to the standard schedule of 4 tablets (1 gm.) a day is scalp ringworm. It has been found that, especially in clinic practice where large numbers of children are affected, a single dose of 3 gm. of griseofulvin at one time is an effective procedure. According to Derbes,⁶ the "loading dose" method assures adequate treatment at the clinic, is

more economical in both time and money, is equally effective and is no more likely to produce side effects. Derbes advised clipping or shaving the hair close within two weeks of administering the single dose, and he reported that 22 out of 23 patients were cured within a period of observation of 12 weeks after such a single dose. Even extremely chronic and resistant types of scalp infections such as favus and *Trichophyton tonsurans* respond readily to griseofulvin.

Fluorescence of hairs when examined under filtered ultraviolet (Wood's) light is altered by griseofulvin and is not a reliable criterion in determining whether infection has been eliminated from the scalp.⁴

Evidence regarding the development of resistance to griseofulvin is conflicting. Most *in vitro* experiments indicate that resistance to the drug does not occur,¹⁵ but several clinical observations of patients receiving inadequate dosage suggest that it can.^{1,7}

TOXICITY AND SIDE EFFECTS

Experiments with rats demonstrated that, when administered orally, griseofulvin did not have toxic effects even in large doses, but when given parenterally it is a mitotic poison, affecting mitosis much as colchicine does.¹⁴ Human spermatogenesis is not affected.¹¹

No serious reactions have been reported. Minor side effects occurred in approximately 20 to 30 per cent of several fairly large series of cases, but in many cases they were transitory, often developing early in the course of treatment and disappearing without discontinuance of therapy. They include headache, nausea, vomiting, diarrhea, gastric discomfort, pharyngitis, dizziness, drowsiness, fatigue, insomnia, pruritus, morbilliform eruptions, urticaria, purpura, mild albuminuria, slight depression of the number of leukocytes, especially of the polymorphonuclear forms, menstrual disturbances, muscle cramps, urinary frequency, aphthous stomatitis, photosensitivity and loss of memory. There is usually no cross-sensitivity to penicillin. No changes in liver function or kidney function or in chemical components of the blood have been noted. In five patients who were taking steroids for other conditions, the fungous infection did not respond to griseofulvin.¹³ Moniliasis developed in a few patients while they were taking griseofulvin for other fungous infections.

When administered to patients with fungous infections who also had other diseases, griseofulvin had no effect either favorable or unfavorable on the other diseases, which included active tuberculosis, rheumatoid arthritis, cholecystitis, hypertension, arteriosclerosis, coronary thrombosis, pulmonary tu-

berculosis, gout, ulcerative colitis, chronic glomerulonephritis, sarcoidosis and myelogenous and lymphatic leukemia.¹⁰

On the other hand, Cohen and coworkers⁵ reported beneficial results, at times striking, in 12 patients with shoulder-hand syndrome unaccompanied by fungous infection. The cases included postcoronary, posthemiplegic and idiopathic types. The observations were controlled with placebos. The authors were unable to offer a scientific explanation for the results.⁵

PRESENT SERIES

We administered griseofulvin therapy to 49 patients with superficial fungous infections, most of whom had chronic, dry, scaly eruptions characteristic of *Trichophyton rubrum* infections. In most cases the infection was of many years' duration and involved the soles, sides of the feet, one or both palms and usually fingernails and/or toenails. In all cases the diagnosis was confirmed by direct microscopic examination of scrapings macerated in 40 per cent potassium hydroxide, and by culture also in 25 cases.

One patient, a woman with generalized scleroderma, had a single lesion on the scalp due to *Trichophyton tonsurans* which healed completely in five weeks.

The dosage schedule for the first six months was four 250 mg. tablets every day for two to four weeks, then either three tablets every day or four tablets a day for two or three days a week. As it soon became apparent that while improvement usually occurred, the infection was not controlled, the dosage was restored to four tablets daily; and later, in addition to the griseofulvin, externally applied fungicides such as Whitfield's ointment, which has a desirable exfoliating effect, were used. Also added to the regimen was grinding the nails with a portable dental burr and instructing patients to keep the nails scraped.

Of 45 patients with chronic hand, foot or nail involvement, 11 were cured in periods ranging from seven months to a year or more. Twenty-three patients discontinued treatment within periods of three months or less, after showing varying degrees of improvement. Recrudescence is probable. No serious side effects were observed. Fine rashes developed in two patients, one had swelling of the face and eyelids and one had a persistent bluish discoloration of the previously affected fingernails after

all clinical and microscopic evidence of infection had disappeared. Moniliasis between the toes and in the crotch developed in one patient while under treatment for *Trichophyton rubrum* infection of the feet and nails. One patient with chronic dry, scaly lesions of *Trichophyton rubrum* developed vesicles after starting to take griseofulvin. Three patients complained of headache, one of them while taking four tablets a day but not with three a day; one patient had headaches during the first course of treatment but not with a second course; one person had both headache and backache, and one patient complained of pain in the neck and shoulders. Diarrhea occurred in one patient and lasted until he discontinued the drug after four weeks.

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McNeil Laboratories, a subsidiary of Johnson and Johnson, supplied Grifulvin® and Schering Laboratories supplied Fulvicin® for this study.

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Nitrofurantoin (Furadantin®)

Use of Intravenous Forms in Resistant Surgical Infections; A Preliminary Report on 25 Patients

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A SERIOUS PROBLEM in surgical practice is created by bacterial infection that is resistant to the established antibacterial agents. A study was carried out to evaluate the clinical effectiveness of intravenous forms of nitrofurantoin (Furadantin®) in such a case and to determine whether they have any toxic effects.

The value of the antibacterial nitrofurans in certain Gram-positive and Gram-negative bacterial infections of the urinary tract has been well established.² Furadantin given intravenously has been reported to be useful in certain bacteremias and septicemias, particularly those due to *Escherichia coli*, *Proteus* sp., *Pseudomonas* sp., *Aerobacter aerogenes*, and some strains of streptococci and micrococci. This was confirmed in our experience.

Furadantin intravenous solution (nitrofurantoin, 1 - (5 - nitrofurfurylideneamino) hydantoin) with polyethylene glycol 300 solvent was used in the first 20 patients of the 25 in the series. This formulation was reported by Christenson and coworkers¹ to have produced metabolic acidosis in some 33 gravely ill patients with inadequate renal function. This toxicity was noted in the present study also, although there was no problem in management inasmuch as the pH of the blood did not change. In the last five patients in the series, the recently introduced Furadantin sodium in crystalline form was used, and it appeared to be free from toxic side effects.

METHODS

Most patients selected for this study were from the surgical service of the College of Medical Evangelists at the Los Angeles County General Hospital and were diagnosed as having resistant bacterial infections complicating surgical operations. There were 23 adults and 2 children in the series, ranging in age from 11 to 77. All the patients were critically ill. Bacteria that grew on cultures included *E. coli*, *S. aureus*, *A. aerogenes*, *P. aeruginosa* and *S. faecalis*. Intravenous Furadantin therapy was used

• Twenty-five patients with severe and unusually resistant bacterial infections were treated with nitrofurantoin given intravenously.

Twelve patients were classified as cured and seven as improved. In two cases there was no observable benefit. The other four patients, all moribund at the beginning of nitrofurantoin therapy, died. No significant toxic reaction to the drug was noted except for a tendency to metabolic acidosis in five patients in a state of shock after treatment with nitrofurantoin (Furadantin® intravenous solution). In no case was there evidence of impaired hematopoiesis.

From this preliminary report it appeared that nitrofurantoin for intravenous use is justified in the treatment of gravely ill patients with surgical infections resistant to other antimicrobial drugs.

as a last resort in cases of perforative appendicitis, pyelonephritis, pelvic abscess, subphrenic abscess, pneumonia, carcinomatous lung abscess, septicemia and peritonitis. Whenever the patient's condition permitted, all other antibacterial drugs were withheld 48 hours before beginning Furadantin; if this was not possible, they were discontinued at the start of Furadantin therapy. Hemoglobin estimation, complete blood cell count, urinalysis and appropriate bacterial cultures with sensitivity studies were performed on each patient before and after treatment. Usually when polyethylene glycol was the vehicle, serial determinations of arterial blood pH and carbon dioxide combining power were carried out.

The usual adult dosage was 130 mg. in a minimum of 500 ml. of 5 per cent glucose in water or saline solution. The recommended dose is approximately 3.5 mg. for each kilogram of body weight, given in divided doses, usually every 8 to 12 hours. Although nausea occasionally occurred, no significant signs of toxicity associated with the administration of the drug were observed.

RESULTS

Four patients, critically ill with severe systemic infections and unresponsive to other massive antimicrobial therapy, died either during or shortly

From the Surgical Service of the College of Medical Evangelists School of Medicine at the Los Angeles County General Hospital, Los Angeles 33.

Submitted March 8, 1961.

after treatment. Twelve patients showed prompt clinical improvement and remained well after an average of five days of intensive treatment. In most of these cases cultures of the blood remained negative for pathogenic organisms. In seven patients the temperature declined and intra-abdominal or subphrenic collections of pus became localized, subsequently requiring surgical drainage. In two patients no objective benefit was obtained from intravenous Furadantin therapy alone. One was a woman, aged 38, with perforative appendicitis and generalized peritonitis; and the other was an 11-year-old child with postappendectomy pelvic cellulitis due to *E. coli* and beta hemolytic *Streptococcus*. Both patients,

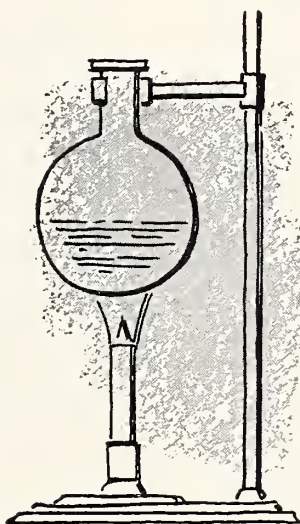
however, later responded to antibiotics with complete resolution of the disease.

In evaluating any new antibacterial drug, it is important to point out that the treatment of a localized abscess is surgical drainage and not chemo- or antibiotic therapy.

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Prothrombin Time

Determination by a Whole Blood Micro-Method for Control of Anticoagulant Therapy

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PROPER USE of oral anticoagulants demands reliable laboratory control.⁴ We shall describe a simple micro-method for testing whole blood "prothrombin time" or "activated clotting time." This method is applicable to clinical control of anticoagulant medication.

Ideally, laboratory tests to control anticoagulant medication should be devised so that:

1. *In vitro* conditions in the performance of the test should approximate as nearly as possible the *in vivo* conditions.

2. Results of any method should be readily reproducible and permit favorable comparison with other standard one-stage methods, in both absolute and relative aspects.

3. Only micro-quantities of capillary blood should be employed, thus avoiding the frequent venipuncture which may be required on a single patient.

4. Results should be available immediately for the guidance of the physician in regulation of anticoagulant dosage.

5. The interval between drawing blood and testing should be as short as possible to avoid erroneous results due to adverse effects of storage.

6. Performance of the test should be technically simple so that, in addition to laboratory personnel, physicians, nurses, or sometimes even patients themselves may achieve proficiency in the determination.

7. Employment of cumbersome equipment such as centrifuges and water baths should be eliminated so that tests may be done at bedside, in the patient's home or in the office of the physician responsible for anticoagulation administration.

Usually for the control of oral anticoagulant therapy as previously practiced, a plasma method is used, the end point of which is determined by recalcification of plasma in the presence of added thromboplastin. This is commonly designated as the one-stage "prothrombin time" or the Quick method.¹⁴ As the therapeutic modality of anticoagulation has become more extensively employed, certain disadvantages, both practical and theoretical,

- A micro technique that is here described for "prothrombin time" determinations, employing capillary whole blood, provides a range of values which is closely correlated with the Quick one-stage plasma method, thus providing interchangeability of results both in normal persons and in patients who have been treated with anticoagulant drugs.

Avoidance of the use of a water bath and centrifuge permit this technique to yield immediate results at the bedside, in the office or in the patient's home.

The use of a whole blood instead of a plasma technique lends additional safety to control of anticoagulant medication, since it may reflect depression of clotting factors not apparent by the usual plasma methods.

have appeared in this time-honored technique. Among the disadvantages of the standard one-stage Quick method are:

1. Venipuncture is required. Usually 3 to 5 ml. of blood is taken.

2. Time for performance of this test, as usually dictated by custom in hospitals and clinical laboratories, is frequently as much as several hours after venipuncture. This time lag greatly lessens the usefulness of the test to the clinician, involving additional communication with the patient or the nurse.

3. Errors arise due to the effects of storage of citrated or oxalated blood. These sources of error include alteration of contact factor (Hageman factor),^{9,11,19} labile factor (Factor V),^{1,2} platelet Factor I, antihemophilic globulin (Factor VIII),¹¹ and antithrombin.²

4. Performance of the plasma test requires a centrifuge and a water bath, restricting its use to laboratories which often do not function during the entire 24 hours of the day.

5. There is considerable variability in the results from one laboratory to another, both with respect to normal and therapeutic ranges.¹⁰

6. Tests employing plasma have the theoretical disadvantage of being insensitive to possible deficiency of Factor IX (Christmas Factor, Antihemophilic Globulin, PTC),^{9,12}

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Submitted March 22, 1961.

The clinical need for a test giving immediately available results has led to various methods of employing mixtures of whole blood and thromboplastin to determine "activated clotting time" rather than plasma "prothrombin time."^{*}

Whole blood methods that neglect control of critical temperatures have not yielded results comparable to those obtained by plasma methods in absolute terms of seconds elapsed. Other methods in which temperature control is included, such as one reported recently by Phillips and coworkers,¹³ while giving excellent relative correlation with the Quick plasma method, fail to correspond in absolute values, especially in the higher ranges of anticoagulation. Such disparity demands radical revision of the clinician's concept of a safe therapeutic range, making for confusion when compared with standard Quick determinations.

Hoffman and Custer⁷ in 1942 reported a micro-method at 37° C. for determination of "prothrombin time" on fresh capillary blood. Since physical conditions were controlled as in the original Quick procedure, their values were comparable both in absolute and in relative terms. They observed that variation in hematocrit caused no divergence in comparing plasma with capillary whole blood techniques. By dilution techniques their micro-method showed "... a parallelism with the Quick values usually within 5 per cent prothrombin."

The essential requirements of accurate temperature control, elimination of water bath and centrifuge, use of fingertip blood, and convenient portability seem to have been satisfied in the method herein reported.

MATERIALS AND METHOD

Instrument

A portable instrument[‡] (14x15x9.5 cm.) provides a constant temperature for performance of the test. A built-in timing device composed of a small synchronous motor and a counter calibrated to 0.1 seconds is used to measure the observed clotting time.

A soft glass capillary tube (1.2-1.4x75 mm.) is employed to draw up the blood and the thromboplastin. A piece of soft rubber tubing, as used for standard blood-diluting pipettes, is equipped with a plastic mouthpiece at each end. A small rubber bulb similar to those used with smallpox vaccine tubes is stretched over the end of one of the plastic mouthpieces. The capillary tube is inserted into the other end of the vaccine bulb.

^{*}References 7, 8, 15, 16, 17, 18.

[‡]Prothrometer[®] manufactured by Oxford Laboratories, Redwood City, California.

The clotting reaction takes place in the dimple of a glass depression slide which rests on a heated aluminum block, the temperature of which is thermostatically controlled at 38.5° C. Measurement of the surface temperature of the glass slide varies from 37° to 38° C., depending upon the ambient temperature and convection currents in the air.

Thromboplastin

Commercially available rabbit brain-lung thromboplastin[†] was employed. When using capillary blood the presence or absence of added calcium ions in the commercial thromboplastin mixture is immaterial, since the patient's own whole blood calcium is sufficient for the clotting action *in vitro*. If, for some reason, oxalated or citrated venous blood is tested, the thromboplastin mixture must contain added calcium chloride.

Method

1. After both the instrument and the thromboplastin reagent have attained the optimum temperature of 37° C., the finger or ear lobe is punctured cleanly and deeply enough to insure a free flow of blood without excessive squeezing. Whole venous blood may be used, provided the optimal ratio of citrate or oxalate is employed.

2. The first drop of blood is wiped away and the fingertip or ear lobe is gently squeezed to produce a large fresh drop of capillary blood.

3. A soft glass capillary tube is employed to draw up the blood to about one third of its capacity. The tip of the capillary tube is then wiped clean to avoid contamination of the thromboplastin reagent, and the blood is drawn 2 or 3 mm. farther up into the tube. This aids in preventing premature mixing of the blood and thromboplastin within the tube.

4. Without delay, an amount of thromboplastin approximately equal to the volume of blood in the tube is drawn up and the contents of the tube are then expelled into the dimple of the warmed glass depression slide. The timer is started.

5. With a clean metal "clot hook" (a scleral retractor is suitable), the blood-thromboplastin mixture is stirred in a rapid rotary fashion. The timer is stopped when gross clotting is observed. With normal blood and also with blood from patients receiving anticoagulants the entire mixture appears to clot simultaneously.

PRECAUTIONS

Accuracy and close agreement of results are dependent on absolute adherence to obvious, but easily overlooked, manipulations. Among these are:

[†]Simplastin[®] manufactured by Warner-Chilcott Co., Morris Plains, New Jersey.

1. Enough time should be allowed for the heating block of the instrument and the thromboplastin reagent to attain optimum temperature before proceeding with the test—usually about 10 to 15 minutes if the machine has been at room temperature.

2. The thromboplastin reagent should be fresh and should not have been contaminated by blood from previous determinations. When possible, the consistent use of a single commercial source of thromboplastin helps to insure uniformity of results.

3. Free-flow of capillary blood is essential. Excessive squeezing of the finger or earlobe will introduce tissue fluids which may alter the test. If more than two determinations are to be made at one time, another area should be pricked.

4. The ratio of the capillary blood and the thromboplastin reagent should be close to 1:1. Pre-marking of the capillary tubes is helpful in this measurement.

5. Blood should be drawn into the capillary tube before the thromboplastin. Reversal of this sequence increases the likelihood of premature mixing of the reactants due to differences in their relative viscosities.

6. In doing duplicate determinations, time may be saved by not resetting the timer and merely making a mental note of the initial determination.

RESULTS

Using the procedure outlined above, the "prothrombin time" or "activated clotting time" on probable normals lay in the range of 10 to 13 seconds, thus comparing favorably with results of the Quick method. It has been our practice to report results in seconds rather than as a "per cent of normal." In order to establish the viability of the thromboplastin, a "normal" was determined by random sampling or by utilizing commercial pooled plasma. Thromboplastins that yielded a "normal" value greater than 14 seconds were not used.

In establishing a comparison of the whole-blood microcapillary method with the standard one-stage plasma test of prothrombin time, every effort was made to maintain ideal test conditions. Dilution of venous blood and citrate was made with volumetric precision, employing graduated centrifuge tubes. When difficulty with venipuncture necessitated several attempts, the samples were discarded. The citrated venous blood was centrifuged immediately for 5 minutes at 1,600 r.p.m. and the plasma layer removed at once. In all instances the macro-method determination was performed within 15 to 20 minutes following venipuncture. When the micro-technique was applied both to finger-puncture capillary blood and to freshly drawn citrated venous blood,

close agreement of results prevailed. Progressive shortening of capillary blood prothrombin time was noted following second or third determinations obtained from a single puncture site, thus underscoring the necessity of fresh, free-flowing capillary blood for accurate analysis.

The same vial of lyophilized thromboplastin was used for both methods in each comparative determination, and it was not used more than 48 hours after reconstitution even though it was preserved at 5° C.

The data that were analyzed consisted of 205 pairs of observations obtained by the whole blood micro-method and the plasma macro-method (Quick), divided for statistical purposes into groups "A" and "B" consisting of 182 and 23 pairs respectively.

In group "A" (182 pairs) each observation on the micro- or macro-methods was the average of two determinations. Group "B" (23 pairs) included 20 pairs of observations from single, duplicate or triplicate determinations and 3 pairs where the whole blood micro-method gave an unknown reading greater than 50 seconds. All comparative results are combined on the scattergram shown in Chart 1.

For group "A" (182 pairs) the estimated regression line is

$$y = .08 + .96x,$$

where x and y represent the prothrombin times for the micro- and macro-methods, respectively, and the correlation coefficient (r) between x and y is $r = +.96$. The statistical analysis* established a definite linear relationship between the methods, even though it is not the ideal direct relationship $y = x$. For prothrombin times up to 50 seconds, the estimated regression line lies significantly (at the 1 per cent level) below the line $y = x$; that is, the micro-method tends to give a slightly higher prothrombin time than the macro-method. However, at the point of maximum difference, namely, at a prothrombin time of 50 seconds, the average statistical discrepancy between the two methods is just 2 seconds.

In calculating the statistical correlation, three instances involving two patients were omitted. In these three instances the microcapillary method produced results much longer than the macroplasma method. The macro-method showed values of 33.0, 20.6, and 39.6 seconds, as compared with microcapillary figures in excess of 50 seconds. We omitted these three comparative tests because prolongation of micro-test results apparently reflected the diminution of coagulation factors other than those in the *extrinsic* coagulation system. It is generally agreed that drugs of the coumadin type act to depress both the *intrinsic*

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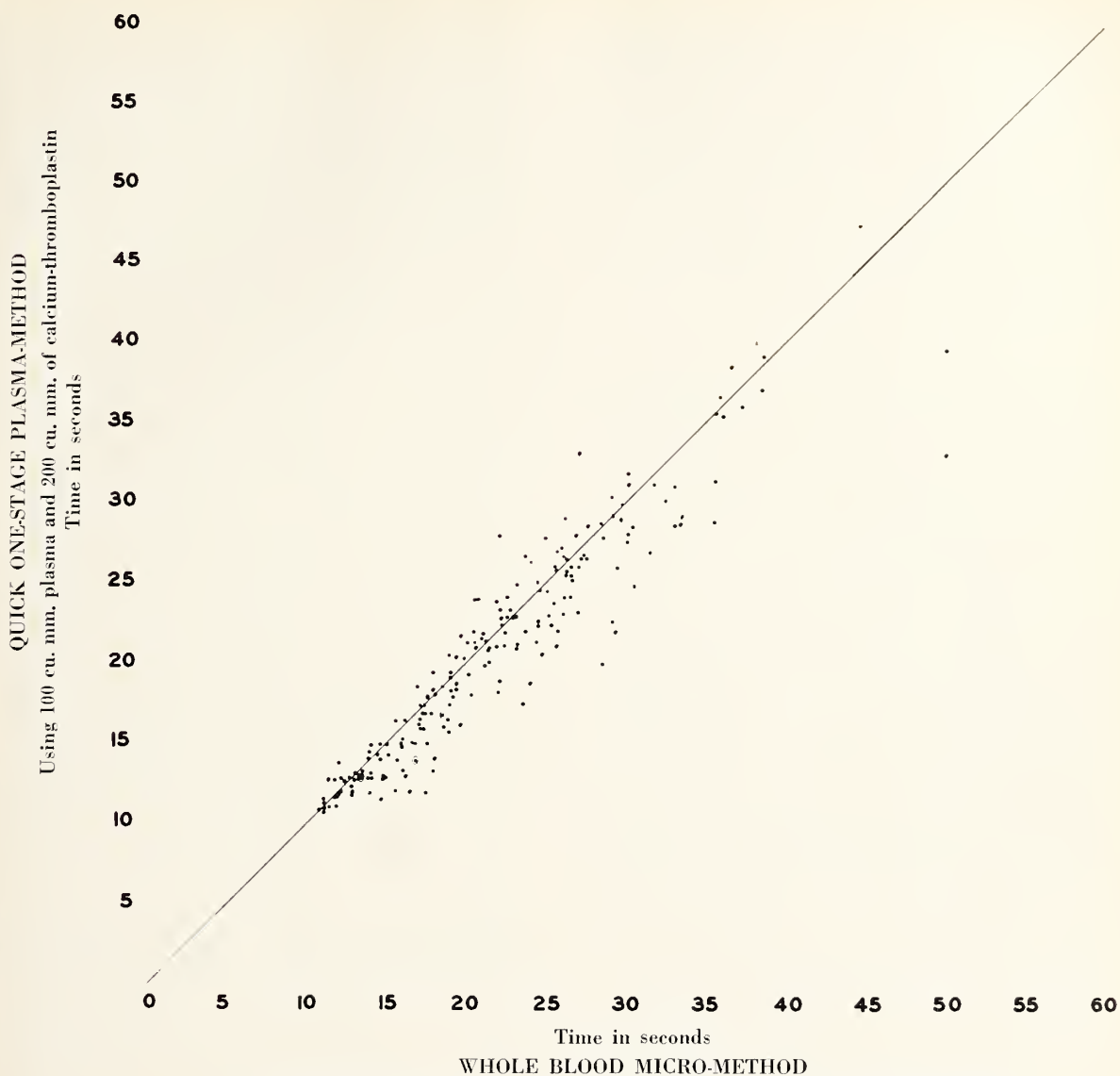


Chart 1.—Comparison of “prothrombin time” determinations by the Quick one-stage plasma method and the whole blood micro-method.

sic and the *extrinsic* clotting systems.[†] Prothrombin (Factor II) and Stuart-Prower factor (Factor X) are affected in both systems, as is Christmas factor (Factor IX) in the *intrinsic* system and proconvertin or stable factor (Factor VII) in the *extrinsic* system.¹² The one-stage plasma (Quick) test is not sensitive to depression of Factor IX but reflects al-

teration of activated clotting time associated only with the *extrinsic* system.

Two of the three test pairs showing longer micro-capillary than macroplasma prothrombin times occurred in one subject, a 79-year-old man with hepatic cirrhosis and gross hematuria. While the plasma macro-method gave figures (33.0 and 20.6 seconds) in the “therapeutic range of anticoagulation” his blood failed to clot at 50 seconds by the micro-capillary method. The third widely divergent comparison occurred in a 69-year-old arteriosclerotic diabetic patient who had pronounced gingival bleeding while his macroplasma prothrombin time was 39.6 seconds and clotting did not occur at 50

[†]Clotting factors present in circulating blood are designated *intrinsic*. Activation of the *extrinsic* system requires tissue thromboplastin. In the formation of thrombin by the *intrinsic* system the following factors are required: Factor II (prothrombin), Factor IV (calcium), Factor V (proaccelerin), Factor VIII (antihemophilic globulin), Factor IX (Christmas factor, plasma thromboplastin component, or antihemophilic B factor), Factor X (Stuart-Prower factor), Hageman factor, platelets (“cephalin”), and plasma thromboplastin antecedent. The *extrinsic* system requires Factors II, IV, V, VII, and X plus Factor III (tissue thromboplastin). Oral anticoagulants depress Factors II, VII, IX, and X.¹²

seconds by the microcapillary method. The discrepancies in these three instances cannot be explained by technical error. The presence of spontaneous bleeding while the "prothrombin time" done by the Quick method was in the "therapeutic" range would indicate that there was a diminution in a coagulation factor to which the conventional plasma method was insensitive. Exact delineation of the additional treatment-induced clotting defect would have required more selective methods—the thromboplastin generation test, for example.

DISCUSSION

In the use of anticoagulant therapy, patients with defects in accessory clotting factors occasionally will be encountered. Neither the technique described in this paper nor the one-stage plasma "prothrombin time" may be considered a diagnostic tool in such problems. These one-stage tests measure only the ability of blood to clot within a given time when exposed to excess tissue thromboplastin and calcium ion. Prothrombin may not be specifically assayed by one-stage techniques. A more specific assay of prothrombin concentration is possible by two-stage techniques or by hydrolysis of a selective substrate, as in the TAME⁶ method. Results are still expressed, however, in terms of clotting activity rather than a quantitative absolute value; furthermore, the technical difficulty involved in the more elaborate tests makes reproducibility troublesome, from one laboratory to another. Apart from its technical difficulty the TAME procedure is unsuited to routine control of anticoagulant medication, since it does not reflect depression of other blood clotting factors which are influenced by oral anticoagulants.

The one-stage "prothrombin" test, whether performed on plasma or whole blood, does not reveal defects in thromboplastin formation. Additionally, the blood of a hypofibrinogenemic patient will have a prolonged one-stage "prothrombin time" in the presence of normal plasma concentration of prothrombin.² In spite of these limitations, the one-stage tests are clinically accepted as guides to oral anticoagulant dosage. There are, however, three areas in which a rapid method for measuring "prothrombin" time of capillary blood appears to offer a distinct increase in safety and accuracy over the conventional plasma test. These situations involve the elimination of innate sources of error associated with: (1) Storage of plasma or blood, (2) repeated venipuncture, (3) disturbance of critical calcium ion concentration essential for accuracy in the one-stage plasma technique.

1. Since the microcapillary whole blood test is completed within seconds after initiating bleeding, the possibility of introducing additional coagulation factors, either acceleratory or inhibitory, due

to storage of the blood, is largely eliminated. It is not uncommon for at least a half to three-quarters of an hour to elapse between venipuncture and centrifugation of the specimen. Frequently as much as several additional hours of storage intervene before the daily determination of "prothrombin times" is completed in a given laboratory. Delays in testing are owing in part to the convenience of waiting for a backlog of tests to accumulate so that a number can be done at one time, and partly to lack of cognizance by laboratory personnel of the various factors that may drastically alter the one-stage test. Chief among these storing phenomena are:

(a) *Labile Factor* (Factor V, proaccelerin) is essential for the conversion of prothrombin to thrombin, and its diminution appears to be solely a consequence of storage.² Storage does not impair the actual prothrombin concentration, but the one-stage "prothrombin time" progressively lengthens as the plasma ages. Thus, in anticoagulated patients, the unrecognized diminution of labile factor may lead to incorrect interpretation on the part of the clinician of the degree of anticoagulation achieved.

(b) Acceleration of clotting time, as measured by one-stage methods, becomes apparent within two hours, due to presence of an "activation substance" produced by interaction between Hageman factor (contact factor) and plasma thromboplastin antecedent.¹² Hageman factor also serves to activate Factor VII in the *extrinsic* clotting system, even in the absence of calcium¹⁹ and at refrigeration temperatures,¹¹ so that one may assume its influence to be undiminished in refrigerated plasma. Comparative trials with plain glass and siliconized capillary tubes in the whole blood micro-method indicated that the period of contact between glass and blood is so brief as to be of negligible concern in this technique.

To avoid the influence of contact factor when glass tubes are used for collection of venous blood, Owren stressed that normal blood should be tested within a few minutes and blood from anticoagulated patients within one hour after venipuncture.¹¹ Assurance of such prompt disposition of the procedure cannot be gained from most laboratories doing the plasma one-stage technique.

(c) *Platelet Factor I* (platelet accelerator) acts to accelerate the conversion of prothrombin to thrombin in stored plasma, and may result in spurious shortening of the "prothrombin time."⁵

2. In dispensing with the necessity for large amounts of venous blood, one removes the possibility of partial undetected coagulation which may commence in the syringe when venipuncture is difficult. Serum produced by this premature coagulation elicits an accelerator substance which promotes the conversion of prothrombin to thrombin during

the test procedure,² again making an erroneously short "prothrombin" time.

3. Critical control of calcium ion concentration demanded by usual plasma "prothrombin time" methods is not a factor in the capillary blood technique where the physiological concentration of calcium remains undisturbed. The artificial situation in which blood calcium is removed by oxalate or citrate during venipuncture and then replaced when the "prothrombin time" is determined lends itself to technical errors which would profoundly affect the result. Excess *in vitro* anticoagulant, which may be present when the ratio of blood to balanced oxalate is less than 9:1, continues to precipitate the calcium ion added during the prothrombin testing procedure and makes for an excessively prolonged "prothrombin time," and sometimes a clot does not appear at all. The existence of excess oxalate may also be encountered when the hematocrit is higher than normal, requiring an increased concentration of calcium ion in the test procedure. In the micro-capillary technique with whole blood, it appears that only an excess of calcium ion is required, since little difference in results was noted whether the material used was a commercial thromboplastin combined with calcium chloride* or a product in which the calcium was supplied separately and could be used as thromboplastin alone.[†]

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*Simplastin. Warner-Chilcott Co., Morris Plains, New Jersey.

†Permaplastin. C. W. Alban & Co., St. Louis, Missouri.



California MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Voices for Medicine

OFTEN THE MEDICAL PROFESSION'S reasons for opposing some politically sponsored medical care plans that have been hatched in recent years have not been made fully available to whatever portion of the public can be influenced by logic.

Time and again the profession is identified simply with the fact of opposition and not enough with the sound reasons it has for opposing.

What seems to be lost sight of is that the medical profession is not opposing plans for better health for more people but is trying to keep illogical proposals from diminishing the vigor and usefulness of a way of practice that has brought the best of medical care to the people of this country.

Unfortunately, many of the plans that our profession has to oppose are spectacularly bountiful ones that may seem, without analysis, to be good—hence are “popular.” Our role, on the other hand, is the stern and “unpopular” one of opposition and denial; and we frequently do not play it articulately enough or before a large enough audience to make our reasons influential.

Physicians know immediately that some of the proposed social and political proposals are wrong. They know that the interjection of a third party between the physician and the patient is a step in the wrong direction, especially where the third party is a governmental bureaucracy which pays the piper and calls the tunes.

Even with this knowledge, however, physicians are faced with the herculean task of proving their contentions to the people without the emotional appeal that gets attention for our politicians' proposals. The politician need only introduce a spectacular bill into his legislative body to gain headlines. The physician, replying, is immediately placed in the position of a defendant and is blandly asked: What better have you to offer?

There is a better answer for many of the proposals which some legislators toss so freely into the law-making mill. Medicine's answer has been, and remains, the promotion of voluntary health care plans. This includes the stimulation of individual responsibility and of home rule—“state's rights,” if you will—reduced to the individual home and individual community.

In the onrush of social planning which has swept the country in recent years, physicians have not been too well recognized or their views accepted in the public press and the public eye. Their “image” has not been very good.

They have, however, had a host of supporters among the thinking groups of the country, the business and other professional men who recognize that a threat of socialization of one profession will necessarily lead to the socialization of all.

With this thought in mind, the California Medical Association is about to embark on a program of carrying the message of the medical profession to other groups. This will be done through the medium of the spoken word. In short, through a speakers' bureau, organized, educated and skilled in presenting to various groups of the public the true message behind medicine's stand in favor of individual effort and in opposition to total reliance on government to solve personal problems.

A committee has been appointed by the C.M.A. Council, with the assignment of analyzing the task, preparing material, training representatives and then making public appearances in behalf of the profession.

Much has already been accomplished in the planning stages of this activity. A list of speakers—men known for their ability to state facts convincingly and with warmth and sincerity—has been selected as the first contingent. Timely topics for public discus-

sion have been selected and subjected to the research needed to prepare factual presentations. Other organizations have been contacted so that they may be informed of the availability of qualified speakers from the ranks of medicine. Plans are being made for the preparation of comparable material to be used by county societies and their members in meeting speaking requests in their own areas.

If one qualified and respected medical speaker can make an impression on an important group of representatives of other lines of endeavor, medicine's image will be improved. If such a result can be multiplied time and again, the image will be still further improved. As a by-product, the spoken word delivered in this manner may make news which will bring the printed word into play. This combination may go far in the image-improving effort.

The "image" is subject to many treatments and can be changed by a variety of media. John D. Rockefeller changed his image by giving away shiny dimes, Andrew Carnegie by endowing public libraries.

Medicine's opportunity today appears to be through the use of the spoken word. If truth is to prevail and if truth can be widely disseminated by the spoken word, here is the opportunity for image-changing. It is unfortunate that a change is indicated but since this is the case, this seems a splendid way to start the conversion process.

Congress on Medical Quackery

ONE OF THE perennial plagues in our country, as in all countries, is medical quackery. Whether it be the witch doctor with his incantations and exotic brews or the more modern slicker with his electronic neon-tubed gadgets, there seems to be a continuing fraternity of those who would enrich themselves at the expense of human suffering.

Today's quacks are concerned primarily with cancer, a disease which has so impressed itself in the fear portions of the brain that its real or fancied victims are exceptionally prone to a quack attack.

Control of quackery and the problems of stamping it out or impeding its spread, have long occupied one part of medicine's overall program. The American Medical Association has for many years devoted a great deal of effort to this task. More recently the A.M.A. has been joined by the Post Office Department, the Federal Food and Drug Administration and the Federal Trade Commission.

To gather together some of the stored information of these forces and to explore the possibilities of further control, the A.M.A. has scheduled a Congress on Medical Quackery to be held in Washington, D. C., in early October.

From the pooled resources of these groups there will likely emerge some specifics for the protection of the public interest against the charlatans. The public interest demands some action and this appears to be an excellent starting point.



The President's Page



The Gemini: C.M.A. and C.P.S.

AS VOLUNTARY prepayment health insurance goes, so goes the personal quality of medical care in America. Physicians of California recognized this truism of the twentieth century and pioneered in creating a mirror-image twin of the House of Delegates, the governing body of their own California Physicians' Service.

Being a sibling of the House of Delegates, it is guided by the same ethics, dedication, objectives and moral purpose; it is the fiscal mechanism for patients to obtain the best medical care. Deciding that the material rewards of practice were all to be distributed to the individual practitioner and not to a third party agent, the House of Delegates decreed that C.P.S. should be not for profit. Thus, much like a mutual investment company, it pays no taxes on profits and disburses all its "income" (save for legal reserves) to its member physicians for their services.

1961 finds this *alter ego* of ours at the frontier of our contacts with society and government. At this sensitive interphase, C.P.S. is expected and instructed to implement many emotion-packed decisions of the House of Delegates: namely those related to the purchase of medical services on both a local and a state-wide basis, and the establishment of methods of payment for these services.

If it is to serve all California physicians, C.P.S. is obliged to be guided by the expressed majority will of the House of Delegates. A few physicians are bound to be dissatisfied with this evidence of the "tyranny of the majority." C.P.S. recognizes that the obligation of responding to the will of the majority carries with it the responsibility of being sensitive to the wishes of the minority. No one answer of today is absolute, irrefutable. Thus communications, cooperation, reasonable bilateral flexibility must prevail whenever possible.

However, a profession dispensing a necessity such as health, must respond to meet social demands. Once a decision is made by democratic procedures, action is essential. If action fails, the ultimate

alternative, of course, is the "tyranny of bureaucratic government administrative decision." The vast majority of physicians prefer the former.

But the tie between us is a two-way one. C.P.S. must not forget it *is* the California physician. It must defend the system that permits its subscribers to obtain the best, most efficient and personal medical care. It will not survive if the personal, competent physician is replaced by government. This must be of compelling concern to C.P.S.

Thus, part of its challenge is closer contact with physicians at the local level, in committee, at meetings, with public relations. Local self-determination is manifest in the Foundation for Medical Care concepts. These have provided a refreshing ground swell of individual physician participation, concern and self-discipline. The manifest virtues lying therein must be brought together, with bilateral C.P.S. and Foundation cooperation, into a coordinated whole so that physicians will be pulling together to make prepayment plans work. To go different ways would be catastrophic. The C.M.A. and C.P.S. twins must not only reidentify themselves with each other, but in each of them the physicians of California must constantly see their own representative organization, to be guided and directed so they can achieve their full promise.

Finally, our Castor and Pollux—or are they Diana and Apollo?—must meet the ultimate challenge—satisfied patients. This goal surely lies in the direction of comprehensive prepayment with the emphasis on excellence of coverage and not on cut-rate premiums filled with chimerical promises. The purchaser should select his premium level by definitive deductible, rather than the open-ended liabilities of uncovered diseases. This certainly must extend into retirement and age, achieved by ingenious and inspired programs, using every device of community rating, salesmanship and enlightened public participation possible. Action with adaptability is the only basis for ultimate survival.

Harold J. Bristol M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Transactions of the House of Delegates

April 30-May 3, 1961

Note: The following report of the transactions of the House of Delegates of the California Medical Association is selected and abridged. A complete transcript of all proceedings is on file in the Association office in San Francisco and available for the inspection of all members.

REFERENCE COMMITTEES

COMMITTEES APPOINTED by Speaker James C. Doyle at the first meeting of the House of Delegates Saturday afternoon, April 29, were as follows:

Committee on Credentials: Jay B. Cosgrove, Los Angeles, chairman. (Two years ago in order to facilitate registration your Speaker and Vice-Speaker arranged for two boards, and it was decided the facility would be continued with one minor change. One board had the county delegations starting with "A" and going through "L". The other started with "M" and went through "Z". The Past Presidents and Councilors were included in the latter board.)

A through L Board: Edson D. Beebe, Bruce Rolf, John P. Ewing, Donald H. Earl, Robert A. Weber, Herbert J. Andrews—all from Los Angeles county.

The M through Z Board: George A. Martin, Redding; F. Burton Jones, Solano; Dan Tucker, Alameda; B. E. McDowell, Merced; Ralph King, San Diego; John Galgiani, San Francisco.

Reference Committee 1. (This committee reviews the reports of the officers, the Council, the commissions, and standing and special committees.) Willard Newman, San Diego, chairman; James Yant, Sacramento; George Herzog, San Francisco; Dudley Cobb, Jr., Los Angeles, alternate.

Reference Committee 2. (This committee reviews the reports of the secretary and the executive secretary, and studies and makes recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year.) Lawrence F. Whittaker, Huntington Beach, chairman; James J. Benn, Jr., Ripon; Stanley Truman, Oakland; W. Dayton Clark, San Francisco, alternate.

Reference Committee 3. (This committee considers new and miscellaneous business.) Elmer Goel, Beverly Hills, chairman; Don C. Musser, San

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Francisco; Charles Grayson, Sacramento; Harold B. Miles, Santa Barbara, alternate.

Reference Committee 3A. (This committee will supplement the efforts of Reference Committee 3 which in the past has carried a far heavier burden than it should.) Frederick Hunt, Santa Ana, chairman; John H. Coughlin, San Bernardino; J. Alison Carey, Morgan Hill; William Argo, Fresno, alternate.

Reference Committee 3B. (This committee also is a supplement to 3 and 3A.) Ira Degenhart, San Rafael, chairman; James A. Spencer, Watsonville; Roger C. Isenhour, San Diego; Irwin Willis, Holtville, alternate.

Reference Committee 4. (This committee considers amendments to the Constitution and By-Laws.) August J. Haschka, Pacific Palisades, chairman; Frank C. Melone, Ontario; Walter H. Brignoli, St. Helena; Luther Newhall, Santa Cruz, alternate.

Reference Committee on California Physicians' Service. Edward Liston, Palo Alto, chairman; Seymour Strongin, Bakersfield; William J. Newman, Sonoma; Franklin F. Ham, Van Nuys, alternate.

PRESENTATION OF FIFTY-YEAR AWARDS

Pins commemorative of 50 years of membership in the California Medical Association have been presented to the following physicians:

Addie B. Allen, Los Angeles County
Howard Andrews, Los Angeles County
Irving Reed Bancroft, Los Angeles County
Charlotte Brown, Los Angeles County
Ralph L. Bryon, Los Angeles County
J. O. Chiapella, Butte-Glenn County
Roland S. Cummings, Los Angeles County
George A. Fielding, Los Angeles County
Harvey J. Forbes, Los Angeles County
William Friedberger, San Joaquin County
Etta Gray, Los Angeles County
Junius B. Harris, Sacramento County
Burt Foster Howard, Sacramento County
Lucius J. Huff, Los Angeles County
Edward J. Johnston, Los Angeles County

Henry H. Lissner, Los Angeles County
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E. F. Tholen, Los Angeles County
Lillian Ray Titcomb, Los Angeles County
Elsa Horstman Van Soest, Los Angeles County
Carl Wallace, Humboldt-Del Norte County

STUDENT A.M.A. REPRESENTATIVES

The representatives from California medical schools to the Student American Medical Association were introduced:

From Stanford University: Gus White and Malcolm Hoffs.

From the University of California, San Francisco: Robert C. Cantu and Glenn Brown.

From the College of Medical Evangelists: Merlin Anderson and Ed Krick.

From the University of Southern California: William Wigmore and John Casebeer.

From the University of California, Los Angeles: Hal Allen and Paul Holland.

WOMAN'S AUXILIARY

Mrs. Samuel Gendel, president of the Woman's Auxiliary, reported on the activities of that organization in her year of tenure. The gist of this report was published in the April, 1961, issue of CALIFORNIA MEDICINE, pages 265-266.

C.P.S. BOARD OF TRUSTEES

The supplemental report of the C.P.S. Board of Trustees will be published in a later issue.

ACTION ON RESOLUTIONS

The 1961 House of Delegates established a new record in the number of resolutions introduced. A total of 111 of them, including two of an emergency nature, came before the House and were referred to three reference committees for study.

The resolutions introduced are shown below in numerical sequence, with notations outlining the subject matter, the author and his representation and the action taken by the House on the resolution.

Where two or more resolutions were combined by a reference committee and a substitute offered in place of the originals, the first numbered resolution carries the substitute as adopted and the following numbered resolutions show a reference to the first numbered.

Where resolutions were withdrawn by the author or where they were not adopted by the House of Delegates, the language of the resolutions is not shown but the subject, author and disposition by the House are listed.

STATE CIVIL SERVICE MEDICAL EXAMINATIONS

Resolution No. 1.

Author: Frank J. Novak.

Representing: San Mateo County.

WHEREAS, Assembly Bill 1031 (Meyers and others)—provides for the state to pay the cost of medical examinations required of applicants, eligibles, or employees of the State Civil Service, in accordance with conditions established by the State Personnel Board; and

WHEREAS, the California Medical Association is a logical, capable and willing source of consultation on matters pertaining to the professional aspect of the practice of medicine and specifically physical examinations; now, therefore, be it

Resolved: That the California Medical Association advise the Committee on Civil Service and State Personnel and the State Personnel Board of its willingness to offer consultation, without fee, as to the proper professional content and format of such physical examinations.

ACTION: Adopted by House.

STATE CIVIL SERVICE MEDICAL EXAMINATIONS

Resolution No. 2.

Author: Frank J. Novak.

Representing: San Mateo County

WHEREAS, Assembly Bill 1031 (Meyers and others)—provides for the state to pay the cost of medical examinations required of applicants, eli-

gibles, or employees of the State Civil Service, in accordance with conditions established by the State Personnel Board; and

WHEREAS, as of February 15, 1961, AB 1031 has been referred to Committee on Civil Service and State Personnel; and

WHEREAS, physicians' fees for such an examination should vary in accordance with what would be a "Usual, Customary, and Reasonable" fee in any particular area, in any particular time, and by any particular individual physician; and

WHEREAS, the terms "Usual, Customary and Reasonable"—Fees are definable and actuarially predictable on a statewide basis; and

WHEREAS, individual county medical societies are capable and willing to assist the state in ascertaining whether any specific fee is "usual, customary, and reasonable"; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association advise the California State Legislature and specifically the Committee on Civil Service and State Personnel that:

1. Should AB 1031 be approved by the California Legislature, it should contain the proviso that the reimbursement of physicians performing examinations as established by the State Personnel Board be based upon what is a "usual, customary and reasonable" fee for that individual physician; and

2. That individual County Medical Societies, or districts, actively assist the State Personnel Board in ascertaining that any specific fee is "usual, customary and reasonable."

ACTION: Adopted by House.

STANDARDIZATION OF HEALTH INSURANCE PLANS

Resolution No. 3.

Author: Richard F. Altman.

Representing: Orange County.

WHEREAS, voluntary health insurance in this country has become so complex, varied and diversified as to defy understanding by the lay public, the medical profession, and the insurance profession alike; and

WHEREAS, there would appear to be a great need for simplification and standardization of voluntary health insurance plans on a national basis, in the interests of broader individual coverage, and universal understanding; and

WHEREAS, a well publicized national effort on behalf of the medical profession and the insurance industry could go far in the deterrent of govern-

ment compulsory health insurance; now, therefore, be it

Resolved: That this C.M.A. congress of delegates instruct its A.M.A. delegation to introduce a resolution in the next House of Delegates of the A.M.A. calling for a nationwide conference, composed of representatives of all phases of the voluntary health insurance field, and nationally known representatives of the medical profession, to formulate several overall comprehensive voluntary insurance plans, standardized on a national level, which can be offered to the entire population through the individual insurance carriers.

ACTION: *Adopted by House.*

COUNTY SOCIETY AREAS

Resolution No. 4.

Author: Willard S. Bross, Jr.

Representing: Lassen-Plumas-Modoc Counties.

WHEREAS, the physicians of Sierra County practice in an area more easily accessible to the area included in the Lassen-Plumas-Modoc County Medical Society; and

WHEREAS, the members of the Placer-Nevada-Sierra County Medical Society have recognized this fact by resolution; now, therefore, be it

Resolved: By the California Medical Association that Sierra County be transferred from the present Placer-Nevada-Sierra County Medical Society and added to the existing Lassen-Plumas-Modoc County Medical Society; and be it further

Resolved: By the California Medical Association that the newly formed quadri-county society be henceforth known as the Lassen-Plumas-Modoc-Sierra Society; and be it further

Resolved: That the present Placer-Nevada-Sierra County Medical Society be henceforth known as the Placer-Nevada County Medical Society.

ACTION: *Adopted by House.*

TRANSFER OF OFFICE OF PUBLIC RELATIONS DIRECTOR

Resolution No. 5.

Author: Tenth Councilor District.

WHEREAS, the maintenance of a C.M.A. office in Los Angeles for housing the administrative office of the Public Relations Director results in greater rental, telephone and commuting costs to the C.M.A. than if such office was maintained at C.M.A. San Francisco headquarters; and

WHEREAS, the Heller Report tendered the Council December, 1957, recommended such transfer, but was deferred by a C.M.A. study committee as not

being "feasible at the present time"; now, therefore, be it

Resolved: That in the interest of economy and efficiency the office of the Director of Public Relations be immediately transferred to the C.M.A. central office.

ACTION: *Referred to Council.*

ESTABLISHMENT OF COMMUNICATIONS COMMISSION

Resolution No. 6.

Author: Tenth Councilor District.

Resolved: That the public relations department, committee and personnel of the California Medical Association be removed from under the Commission on Public Policy; and be it further

Resolved: That there be created a Communications Commission of the California Medical Association to assume those activities now termed public relations; and be it further

Resolved: That such Communications Commission be assigned three distinct and separate committee responsibilities, staffs and budgets, these being concerned with:

1. Internal or intraprofessional communications to publish *Newsletter* and develop other means to increase the dissemination of information within the C.M.A. membership.

2. Continued assistance, on request, to county societies in execution of their individual community service activities as now being carried out by the C.M.A. public relations committee and staff.

3. Public information to provide a more realistic and active interpretation of C.M.A. policies and attitudes to the public through customary communications media.

ACTION: *Referred to Council.*

REFERENCE COMMITTEE PROCEDURES

Resolution No. 7.

Author: Tenth Councilor District.

WHEREAS, by constitutional definition, the House of Delegates is the legislative body composed of representatives elected directly by members of component medical societies and the Council is the executive branch of the California Medical Association; and

WHEREAS, there is an increasing percentage of important resolutions submitted each year which deal with the formation or implementation of C.M.A. policy; and

WHEREAS, reference committees and/or the House of Delegates cannot always reach an immediate de-

cision in the time allotted, with subsequent referral to the Council "for further study"; and

WHEREAS, such procedure fails to utilize and stimulate the potential of the House of Delegates by free and creative interchange of ideas in the formation or implementation of C.M.A. policy; and

WHEREAS, such procedure further burdens the executive functions of the Council with legislative and policy matters which are more properly a function of the House of Delegates, except in instances of extreme urgency; now, therefore, be it

Resolved: That

1. Reference committees be encouraged to refer such resolutions directly to the appropriate commission, committee or House of Delegates ad hoc committee as appointed by the Speaker.

2. Such commission, committee or House ad hoc committee should include, whenever possible, representation of both supporting and dissenting delegation opinion.

3. Final recommendations from such commission, committee or House ad hoc committee should be reported to the Council or House of Delegates for appropriate action.

ACTION: *Adopted by House.*

GENERAL PRACTICE RESIDENCIES

Resolution No. 8.

Author: Dave Dozier,

Representing: Sacramento County.

WHEREAS, the following resolution has been presented for action by the California Academy of General Practice as follows:

"WHEREAS, many general practice residencies are unfilled and many have inadequate progressive and integrated training programs, and

"WHEREAS, the present two-year family practice pilot program of the American Medical Association fails to adequately prepare the young physician to do general practice in his own community, and

"WHEREAS, each segment of organized medicine has—and still—determines the minute details and overall content of their respective training programs, therefore be it

"Resolved: That the Council on Medical Education and Hospitals be directed to formulate other pilot two-year progressive training programs which are acceptable to the American Academy of General Practice, the only national association representing general practice."

Now, therefore, be it

Resolved: That the House of Delegates instruct the delegates to the American Medical Association Convention to present the American Academy of

General Practice resolution to the next meeting of the House of Delegates of the American Medical Association for appropriate action.

ACTION: *Adopted by House.*

QUALITY OF MEDICAL CARE

Resolution No. 9.

Author: Donald Abbott.

Representing: Riverside County.

(Resolution No. 9 was combined by Reference Committee No. 3B with Resolutions Nos. 24, 33, 37 and 76; a substitute resolution to take the place of these individual resolutions was developed as shown below.)

Resolved: That this House of Delegates instruct the C.M.A. Council to intensify their study of further methods of control of the quality of medical care; and be it further

Resolved: That the implementation of these methods be expedited.

ACTION: *Substitute resolution adopted by House.*

CORONER SYSTEM

Resolution No. 10.

Author: Frank H. Robinson.

Representing: San Diego County.

WHEREAS, the Coroner system as we know it today is regarded by many leading legal and medical authorities as an antiquated system unable to operate efficiently in our modern civilization; and

WHEREAS, there is a need for a determination of the *medical* cause of death entirely separate and apart from the *legal* cause of death; and

WHEREAS, the only properly qualified persons to investigate the cause of death medically are physicians and surgeons, specializing in the field of pathology and with training equivalent to that necessary for certification by the American Board of Pathology in pathological anatomy, clinical pathology and forensic pathology; and

WHEREAS, the only properly qualified persons to legally determine the cause of death are those persons sufficiently trained legally and licensed to practice the professional application of the law; now, therefore, be it

Resolved: That the California Medical Association invite the State Bar of California to make a joint recommendation with C.M.A. to the California State Legislature proposing appropriate code revi-

sion to accomplish the intent of this resolution; and be it further

Resolved: That the members of the California Medical Association Liaison Committee to the State Bar of California be directed to prepare proposed legislation which would define and separate these duties as stated herein.

ACTION: *Adopted by House.*

SOCIAL SECURITY POLL

Resolution No. 11.

Author: Ira H. Degenhardt.

ACTION: *Not adopted by House.*

EMERGENCY MEDICAL INFORMATION

Resolution No. 12.

Author: Joseph J. Arons.

Representing: Marin Medical Society.

WHEREAS, there exists a definite need for a standardized place for emergency medical information to be immediately available to physicians treating highway casualties and other serious emergencies; and

WHEREAS, no such form yet proposed has appeared to fulfill this need; and

WHEREAS, the automobile operator's license is almost universally readily available and is referred to by police and emergency authorities routinely in such cases; now, therefore, be it

Resolved: That the Council of the California Medical Association be instructed to immediately proceed to investigate through appropriate channels the feasibility of utilizing the reverse side of such operator's license for recording of information regarding chronic diseases, important medications, sensitivities, and any other information considered pertinent to medical emergencies; and be it further

Resolved: That, if such procedure appears acceptable, future operator's licenses be imprinted with an appropriate form to contain said information; and be it further

Resolved: That should the suggested mechanism prove impractical, the Council direct the Traffic Safety Committee to immediately proceed to develop an alternative program; and be it further

Resolved: That, on adoption of any such procedure, all members of the California Medical Association be impressed with the importance to their patients of maintaining such information on a current basis, and be urged to cooperate fully in this project.

ACTION: *Referred to Committee on Traffic Safety.*

CHARTER FOR MARIN MEDICAL SOCIETY

Resolution No. 13.

Author: Ira H. Degenhardt.

Representing: Marin Medical Society.

WHEREAS, the membership of the Marin County Medical Society has voted overwhelmingly that the name of the Society be changed to the Marin Medical Society; and

WHEREAS, such a change would in no wise alter the organization, function and obligations of the Society, or any of its members; now, therefore, be it

Resolved: That a charter be issued by the California Medical Association in the name of the Marin Medical Society, and that said Society be henceforth known by that name.

ACTION: *Adopted by House.*

POLITICAL RESPONSIBILITY

Resolution No. 14.

Author: D. J. Barry.

Representing: Los Angeles County.

Resolved: That the California Medical Association encourage its members to be more politically responsible as individual physicians; and be it further

Resolved: That the C.M.A. encourage its members to join together in the formation of local independent medical political committees; and be it further

Resolved: That C.M.A. members, as private citizens, take a more active part in local, state and national government endeavoring to create policies which preserve individual freedom, free enterprise and sound representative government; and be it further

Resolved: That the component county medical associations of the C.M.A. be encouraged to further this program on the local level.

ACTION: *Adopted by House.*

LEGISLATIVE INFORMATION

Resolution No. 15.

Author: D. J. Barry.

Representing: Los Angeles County.

WHEREAS, the persistent growth of public health legislative issues demands further expansion of the C.M.A.'s public health informational services; and

WHEREAS, there is an increased responsibility of all physicians to know of the statements and attitudes of all state and federal legislators, as well as their voting records; and there is also a need to promote knowledge about the positions and public actions of public officials and political parties; and

WHEREAS, there is a need for expanded education on how physicians can and should be politically effective in order to achieve sound public health legislation; now, therefore, be it

Resolved: That the C.M.A. considerably expand its informational services to all its members on legislative issues, legislators, public officials and political parties, through a regular newspaper and timely pamphlets or booklets on items of special public health importance; and be it further

Resolved: That the California Medical Association and its component societies direct their attention and efforts more extensively to the following activities:

1. Public health legislative issues.
2. Information describing the position or attitude taken by political parties, public officials and political candidates on any issue in which the C.M.A. or its members has an interest.
3. The voting record of members of the United States Congress and the California State Legislature.
4. Information and advice on how physicians can or should organize for political action.

ACTION: *Referred to Commission on Public Policy.*

POLITICAL ACTION COMMITTEE

Resolution No. 16.

Author: D. J. Barry.

Representing: Los Angeles County.

WHEREAS, there is an absence of any California statewide physicians' political action committee that directs attention to the election of United States Senators and Congressmen; now, therefore, be it

Resolved: That the C.M.A. Council be directed to appoint a special committee to conduct an investigation into the reasons for the absence of a California Political Action Committee for Federal Offices by the physicians of the state, and study the need for such a political committee, and be it further

Resolved: That should this committee report a need for such a political action group, the C.M.A. will encourage its members to join together in the formation of such a political action group as independent, private citizens.

ACTION: *Referred to Commission on Public Policy.*

CHAMBERS OF COMMERCE

Resolution No. 17.

Author: Samuel R. Sherman.

Representing: The Council.

WHEREAS, the Chamber of Commerce of the United States, in cooperation with the California

Chambers of Commerce, has held two highly successful California meetings designed to maintain economic freedom, efficiency, growth, stability and security through the preservation of decentralized government in contrast with socialistic ideologies of federal control of many segments of our economy; and

WHEREAS, the principles expounded by these business and professional leaders parallel the views of the members of the California Medical Association in general and particularly as they define the dangers of government control of the health facilities of the nation; now, therefore, be it

Resolved: That the California Medical Association salutes and commends the Chambers of Commerce of the United States and the cooperating California Chambers of Commerce for this demonstration of leadership in giving voice to citizens in all walks of life who are so vitally interested and concerned with the maintenance of the economic principles that stem from the freedom of the individual to provide for his own needs through voluntary effort; and be it further

Resolved: That in recognition of this capable and unselfish leadership, California physicians be urged to join with the various Chambers of Commerce in furthering the principles of economic freedom and opportunity in order that stagnation and mediocrity shall not prevail.

ACTION: *Adopted by House.*

ALCOHOLISM—NARCOTICS

Resolution No. 18.

Author: Samuel R. Sherman.

Representing: The Council.

WHEREAS, the members of the California Medical Association recognize the growing dangers of alcoholism and narcotics addiction to the health of the people of our state; and

WHEREAS, these abuses are not only detrimental to health but result in inestimable losses to our economy and are responsible for countless tragedies in California families; and

WHEREAS, many victims of alcohol and narcotics eventually end up as wards of the state at great expense to all taxpayers; and

WHEREAS, early detection, counsel and medical care and attention are steps toward the reduction in the total number of complete victims; now, therefore, be it

Resolved: That the California Medical Association encourage its individual members and its component societies to give immediate attention to these problems; and be it further

Resolved: That individual members and societies cooperate with all recognized agencies; and be it further

Resolved: That the California Medical Association's Committee on Postgraduate Activities initiate programs aimed at education and prevention to the end that California physicians may exert their best efforts toward the eradication of these great threats to the health and welfare of the people of California.

ACTION: *Adopted by House.*

LACK OF UNIFORM PROCEDURES

Resolution No. 19.

Author: San Francisco Medical Society.

WHEREAS, lack of uniform procedures for acceptance of transfers, waiting periods before election to membership, etc., often create a hardship for doctors moving from one county to another; now, therefore, be it

Resolved: That a study committee be appointed to the end of ultimately bringing in a proper constitutional amendment.

ACTION: *Referred to Council.*

TO ABOLISH AMA AWARD FOR THE GP OF THE YEAR

Resolution No. 20.

Author: Alexander F. Fraser.

Representing: San Francisco County.

WHEREAS, the American Medical Association should represent all doctors in medicine; and

WHEREAS, there is no reason to give an award to the outstanding general practitioner of the year any more than there is to give one to the outstanding internist, pediatrician, surgeon, and other doctors of medicine; and

WHEREAS, general practitioners themselves have voiced objections to this award; and

WHEREAS, there are no criteria or standards or objective basis for making such an award; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association go on record as opposing the concept of an award to the GP of the year; and be it further

Resolved: That the California delegation to the American Medical Association be instructed to introduce this resolution at the next meeting of the American Medical Association.

ACTION: *Adopted by House.*

AMA PUBLIC RELATIONS

Resolution No. 21.

Author: William Thompson.

Representing: San Mateo County.

WHEREAS, the present public relations policy of the A.M.A. as exemplified by recent TV broadcasts and news releases has resulted in the erroneous impression that the A.M.A. is opposed to the principle of providing medical care to the indigent; and

WHEREAS, the A.M.A. has been the leader in the advancement of medical science and the promotion of public health; and

WHEREAS, the changing socio-economic structure of this country requires that the A.M.A. assume the leadership in the socio-economic field and accelerate its positive program for the distribution of medical care; now, therefore, be it

Resolved: That the C.M.A. inform the A.M.A. of its sincere belief that:

1. It is urgent that the A.M.A. review its public relations program and accelerate its efforts to develop official representatives and spokesmen with the aim of presenting to the public and the press a true image of the tenets and objectives of medicine; and

2. The A.M.A. should exert vigorous leadership in the development of better methods of providing voluntary, prepaid medical care for all segments of the public.

ACTION: *Adopted by House.*

CONVERSION FACTORS

Resolution No. 22.

Author: San Mateo delegation.

ACTION: *Not adopted by House.*

FLUORIDATION

Resolution No. 23.

Author: John T. Saidy.

Representing: San Mateo County.

WHEREAS, fluoridation of community water systems is a safe and effective method of reducing the incidence of dental caries; and

WHEREAS, such fluoridation has failed to secure local approval in many areas, thus injuring the public health; and

WHEREAS, such public health is the proper interest of the medical profession, despite the fact that active medical participation has been minimal in many such campaigns; now, therefore, be it

Resolved: That the California Medical Association take any necessary steps to initiate and support any program intended to bring fluoridation and its

benefits to those communities not now so benefited, and that these measures include an active campaign of local public education carried out by individual members of the component societies.

ACTION: *Adopted by House.*

Resolution No. 24: See Resolution No. 9.

CONTROL OF THE NARCOTIC PROBLEM

Resolution No. 25.

Author: John T. Saily.

Representing: San Mateo County.

WHEREAS, it is recognized that there are imperfections in the present control of the narcotic problem; and

WHEREAS, narcotic addiction is a medical problem as well as one of law enforcement; now, therefore, be it

Resolved: That the C.M.A. exercise the responsibility of the medical profession by assuming the leadership in promoting an improved approach toward resolving the problem of narcotic traffic and addiction.

ACTION: *Adopted by House.*

C.M.A. EXPENSES

Resolution No. 26.

Author: San Mateo County Medical Society.

ACTION: *Not adopted by House.*

POSTMORTEM EXAMINATIONS

Resolution No. 27.

Author: San Mateo delegation.

WHEREAS, the scientific value of postmortem examinations is well recognized; and

WHEREAS, our current statutes do not provide a local official with the authority to consent for autopsies when there is no relative, or qualified individual to assume the responsibility for disposition of the body of a deceased person when it does not come under the jurisdiction of the coroner's office; and

WHEREAS, this situation results in the loss of valuable research, educational, and statistical material which would be of value to the attending physicians, hospitals, and the public health; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association request the Committee on Legislation to initiate the necessary changes in the Health and Safety Code so that the Public Administrator be given the authority to consent for

autopsies in the cases of unclaimed bodies falling under his jurisdiction.

ACTION: *Adopted by House.*

ARMED FORCES NEEDS

Resolution No. 28.

Author: Malcolm C. Todd.

Representing: C.M.A. Councilor.

WHEREAS, there is an apparent continuous need for professional medical and dental officers in the Armed Services of the Department of Defense of the United States; and

WHEREAS, it is desirous that these officers be the best trained and most efficient doctors of any in the country; and

WHEREAS, the use of the discriminating Doctors Draft Law continuously needs enforcement in order to keep a sufficient number of doctors in the Armed Services; and

WHEREAS, the medical education program sponsored by the Navy, the Army and the Air Force is a meager attempt to fulfill the need for medical officers; and

WHEREAS, certain bills have been introduced into the Congress to create an Armed Forces Medical College or a U. S. Military Academy of Medicine; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association and the American Medical Association urge the Congress of the United States to authorize the Department of Defense to establish a nation-wide program of subsidizing the Medical Education of qualified premedical students to the extent of two men in each class in every Class A medical school in the United States, and to offer grants-in-aid to medical schools training these men; and be it further

Resolved: That, upon graduation these eligible cadets would be commissioned in the regular Army, Navy, Air Force or Coast Guard if offered, and that they will serve for a period of ten years including their internship and residency, thus making approximately 164 new physicians available annually to serve the Armed Forces.

ACTION: *Adopted by House.*

SOLICITATION OF PATIENTS

Resolution No. 29.

Author: Leon P. Fox.

Representing: Santa Clara County.

WHEREAS, many disability insurance carriers publish or cause to be published on the premises of employers of insured employees, the names of individual physicians, medical groups and clinics, who

have been contracted with to act as insurance company physicians; and

WHEREAS, this practice violates the Code of Ethics of the A.M.A., C.M.A. and component societies pertaining to solicitation of patients; and

WHEREAS, organized medicine constantly defends the principle of freedom of choice of one's physician; now, therefore, be it

Resolved: That this House of Delegates clarify and ascertain that such publication is in fact a violation of the Code of Ethics and the principle of freedom of choice; and be it further

Resolved: That all members of the C.M.A. be reminded of this transgression whether it has been wilful or not; and be it further

Resolved: That the Health Insurance Council be informed of this action and be urged to advise its members' companies to act accordingly to avoid jeopardizing the ethics of physicians with whom they have contracted.

ACTION: *Referred to Committee on Insurance.*

SOLICITATION OF PATIENTS

Resolution No. 30.

Author: Leon P. Fox.

Representing: Santa Clara County.

WHEREAS, California Physicians' Service and the many County Foundations for Medical Care persistently are involved in solicitation of patients by dissemination of lists of physician members to employers and employee beneficiaries; and

WHEREAS, this is contrary to and violates the Code of Ethics of the A.M.A. and component societies; and

WHEREAS, these organizations are sponsored by C.M.A. and are subject to its By-Laws; now, therefore, be it

Resolved: That this House direct C.P.S. and recommend to the Foundations that they avoid solicitation of patients through distribution of lists and that such lists be distributed only on the request of the individual subscriber; and be it further

Resolved: That action on this resolution be directed to all county medical societies for information and/or compliance.

ACTION: *Adopted by House.*

ECONOMIC ADVISORY BOARD

Resolution No. 31.

Author: August J. Haschka.

Representing: Los Angeles County.

WHEREAS, the dominant right of a physician to determine the fair value of his medical services is the cornerstone of his economic security; and

WHEREAS, third parties acting, in effect, as purchasing agents or brokers for organized consumers of medical services increasingly tend to disregard or trespass upon this right; and

WHEREAS, dealing with third parties has become an unavoidable and major feature of the private practice of medicine; and

WHEREAS, physicians, as individuals, are in a position of growing disadvantage insofar as enforcing their right in dealing with powerful third parties; and

WHEREAS, the principle of collective action is almost universally recognized and accepted as an indispensable and effective instrument to protect and promote the economic security of individuals engaged in similar means of livelihood; and

WHEREAS, physicians need to take a strong and united stand against the further threat and encroachment of organized economic pressure groups upon their economic security; and

WHEREAS, the California Medical Association is not constitutionally empowered to act as a direct agent in matters affecting the economic welfare of its members; now, therefore, be it

Resolved: That the President of the California Medical Association appoint an *Economic Advisory Board* whose purpose will be:

1. To explore and study all means whereby the California Medical Association can become maximally effective as an economic agent for its members in dealing with third parties; and

2. To explore and study appropriate enabling modernization of our Constitution and By-Laws; and be it further

Resolved: That the *Economic Advisory Board* be authorized to engage such technical experts and assistance necessary to accomplish its purpose; and be it further

Resolved: That the *Economic Advisory Board* make an annual report with recommendations to the C.M.A. House of Delegates at each Annual Session hereafter in addition to any other periodic reports the Council may require.

ACTION: *Referred to Council.*

STATE MEDICAL SERVICES

Resolution No. 32.

Author: Frank J. Novak.

Representing: San Mateo County.

WHEREAS, state government is showing an increasing interest in purchasing medical services for a wide variety of groups; and

WHEREAS, the numerous different current fee schedules upon which payment for such services is based have in common only their inadequacy; and

WHEREAS, state government has historically been reluctant to pay the individual practicing physician "the going rate"—in effect forcing the physician to subsidize government by a form of taxation that is peculiar to physicians alone; and

WHEREAS, physicians' fees for medical services should vary in accordance with what would be a "Usual, Customary, and Reasonable" fee in any particular area, in any particular time, and by any particular physician; and

WHEREAS, the terms "Usual, Customary, and Reasonable Fees" are definable and actuarially predictable on a statewide basis; and

WHEREAS, individual county medical societies are capable and willing to assist the state government in determining whether any specific fee is "Usual, Customary, and Reasonable"; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association advise the California State Legislature via the appropriate committee that:

1. The payment of physicians for contractual services rendered be based upon what is a "Usual, Customary, and Reasonable Fee" for that individual physician; and

2. Individual county medical societies will actively assist the state government in determining whether any specific fee is "Usual, Customary, and Reasonable."

ACTION: *Adopted by House.*

Resolution No. 33: See Resolution No. 9.

TAX DEDUCTIONS

Resolution No. 34.

Author: San Mateo delegation.

ACTION: *Not adopted by House.*

AIR POLLUTION

Resolution No. 35.

Author: San Mateo delegation.

WHEREAS, the microscopic dust as well as droplets and gases that are the air pollutants produced by man are increasingly being shown harmful to human health; and

WHEREAS, the major units, such as refineries and factories have already made excellent gains in air pollutant control, while smaller unit sources are now the major total source; now, therefore, be it

Resolved: That the C.M.A. encourage and aid in all possible channels the further work of the Air Pollutant Control Commissions.

ACTION: *Adopted by House.*

NEWBORN BENEFITS IN C.P.S.'s CONTRACTS

Resolution No. 36.

Author: San Mateo delegation.

Resolved: That the California Physicians' Service be commended for its inclusion of newborn benefits in an increasing number of contracts, and that it be encouraged to continue active promotion of this benefit in all of its negotiations and that this benefit be publicized by C.P.S. more widely than in the past.

ACTION: *Adopted by House.*

Resolution No. 37: See Resolution No. 9.

COMPREHENSIVE PREPAYMENT

Resolution No. 38.

Author: San Francisco delegation.

WHEREAS, the need exists that standards be developed for a comprehensive medical care prepayment plan which will provide certainty of coverage for all people of California; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association direct the Council of the C.M.A. to study such a comprehensive medical care prepayment plan to develop such standards encompassed in such a plan with all possible speed and to render a report to the 1962 House of Delegates; and be it further

Resolved: That the C.M.A. Council hold necessary conferences with all interested groups for the further study of this problem; and be it further

Resolved: That the delegates from California to the A.M.A. be directed to introduce the intent of this resolution into the House of Delegates of the A.M.A.

ACTION: *Adopted by House.*

SUPPORT OF KERR-MILLS BILL

Resolution No. 39.

Author: San Francisco delegation.

Resolved: That the C.M.A. and all its component societies approve the principles of Kerr-Mills legislation in contrast to the King-Anderson social security approach, and push its positive implementation in California.

ACTION: *Adopted by House.*

PURCHASE OF PRIVATE INSURANCE

Resolution No. 40.

Author: San Francisco delegation.

Resolved: That the C.M.A. introduce state legislation to use California's matching grant funds for purchasing of private insurance in order to provide care for the recipients of Kerr-Mills appropriations.

ACTION: *Referred through Council to Commission on Medical Services.*

‘ ‘ ‘

REVAMP OAS PROGRAM

Resolution No. 41.

Author: San Francisco delegation.

WHEREAS, the present OAS program necessarily has to be revamped because the recipients now have Kerr-Mills funds; now, therefore, be it

Resolved: That the C.M.A. and the State Department of Social Welfare through appropriate liaison committees augment and encourage the reconsideration and reevaluation of the present OAS program in California.

ACTION: *Adopted by House.*

‘ ‘ ‘

A.M.A. BOARD OF TRUSTEES

Resolution No. 42.

Author: San Francisco delegation.

(Resolution No. 42 and Resolution No. 63, Burt L. Davis, author, were considered together and the substitute resolution below developed as a combination of the two.)

WHEREAS, the American Medical Association has a total membership of more than 160,000 physicians and surgeons; and

WHEREAS, the quantity and scope of problems confronting the profession have vastly increased since the present constitutional pattern was formulated; and

WHEREAS, the mechanical problems of administration have greatly expanded as a consequence thereof; and

WHEREAS, the Board of Trustees cannot represent the entire medical profession if it fails to recognize the problems which are indigenous to various geographic and population areas; and

WHEREAS, the various shades of opinions among the members should be represented in the deliberations of the American Medical Association's Board of Trustees; and

WHEREAS, the common tenure of the Board of Trustees is now ten years plus unexpired terms, and this is perhaps too long for a properly representative executive group; now, therefore, be it

Resolved: That the Speaker of the A.M.A. House of Delegates appoint an ad hoc committee consisting of nine (9) elected members of the House of Delegates to consider appropriate changes in the Constitution and By-Laws of the A.M.A. which will:

1. Enlarge the Board of Trustees to fifteen (15) elected members; and

2. Define the terms of office in order that the will of the House of Delegates may be more effectively implemented.

3. This ad hoc committee to report back to the House of Delegates in Denver in November, 1961.

ACTION: *Adopted by House.*

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C.P.S. TRAY FEES

Resolution No. 43.

Author: San Francisco delegation.

Resolved: That the C.M.A.-C.P.S. Liaison Committee study and make recommendations relative to a more realistic tray fee, as outlined in C.P.S. Senate Bill No. 17, in order to encourage more minor surgical and orthopedic procedures in the office, thus saving hospital costs.

ACTION: *Adopted by House.*

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C.M.A. MAILING LIST

Resolution No. 44.

Author: San Francisco delegation.

ACTION: *Withdrawn by author.*

‘ ‘ ‘

C.P.S. ADVERTISING

Resolution No. 45.

Author: Los Angeles County delegation.

WHEREAS, the California Physicians' Service depends on the acceptance of the principle of voluntary insurance and the private practice of medicine; and

WHEREAS, the present high standards of medical care under the private practice of medicine will deteriorate under compulsory insurance or state medicine; and

WHEREAS, the present advertising by C.P.S. does not emphasize strongly enough the advantages of voluntary insurance and private medical practice to the majority of the public; now, therefore, be it

Resolved: That C.P.S. present to the public in a vigorous manner the merits of voluntary prepayment with free choice of physician and stress the undesirability of state intervention between physician and patient, and, where possible, its advertising should be aimed in this direction.

ACTION: *Adopted by House.*

PRINCIPLES OF PHYSICIAN-HOSPITAL RELATIONSHIPS

Resolution No. 46.

Author: Los Angeles County delegation.

ACTION: Not adopted by House.

‘ ‘ ‘

FREEDOM FOR PHYSICIANS FROM ARBITRARY GOVERNMENT CONTROL

Resolution No. 47.

Author: Los Angeles County delegation.

ACTION: Not adopted by House.

‘ ‘ ‘

MEDICAL EXEMPTIONS—FEDERAL AND STATE INCOME TAXES

Resolution No. 48.

Author: Los Angeles County delegation.

WHEREAS, the exemption for medical expenses on California Income Tax is much lower than the exemption on the Federal Income Tax; and

WHEREAS, the need for an exemption is actually much greater for a man with high medical expenses than with low medical expenses; and

WHEREAS, there are advantages in uniform exemptions for federal and state income taxes; and

WHEREAS, the federal exemptions constitute a more realistic approach to the economic problems of the citizen with unusually high medical expenses; now, therefore, be it

Resolved: That the California Medical Association proposes that the exemptions for medical expenses for the California Income Tax be made the same as exist for the Federal Income Tax and instructs the Legislative Committee to make every effort to get this enacted into law at the next session of the Legislature.

ACTION: Adopted by House.

‘ ‘ ‘

ASSISTANT SECRETARY OF DEFENSE FOR HEALTH AND MEDICAL AFFAIRS

Resolution No. 49.

Author: Los Angeles County delegation.

WHEREAS, in the reorganization of the Department of Defense the position of Assistant Secretary of Defense for Medical and Health Affairs was arbitrarily abolished under the pretext of simplification of organization and reduction in the number of assistant secretaries to report directly to the Secretary; and

WHEREAS, the complex problems of the health and the medical and surgical care of the members of the Armed Forces and the required logistical support is now relegated to a position of subordinate impor-

tance under the direction of the Assistant Secretary of Defense for Manpower, Personnel and Reserve, with the Health and Medical Affairs Section headed by a Deputy Assistant Secretary; and

WHEREAS, such downgrading of the important position of Assistant Secretary of Defense for Health and Medical Affairs and evident lack of understanding of the significance of the state of health and the medical care of the Armed Forces can only result in decreased quality of medical care and lowered morale of all the Service personnel; now, therefore, be it

Resolved: That the California Medical Association expresses its deep concern over the consequences of the abolition of the position of Assistant Secretary of Defense for Health and Medical Affairs and that the Association will make strong representation to the Secretary of Defense to restore this Assistant Secretaryship; and be it further

Resolved: That the California Delegation to the House of Delegates of the American Medical Association be instructed to introduce a similar resolution at the meeting of the House of Delegates in New York City, June 1961.

ACTION: Adopted by House.

‘ ‘ ‘

BLOOD BANK COMMITTEE—PROPOSED REDUCTION

Resolution No. 50.

Author: Los Angeles County delegation.

WHEREAS, the Blood Bank Committee of the California Medical Association has for many years consisted and does today consist of twelve (12) members; and

WHEREAS, the California Blood Bank System consists of twelve (12) member banks throughout the length and breadth of the State of California; and

WHEREAS, the function of the Blood Bank and blood administration is vital to the practice of medicine; and

WHEREAS, the best interests of the public and of the medical profession can be served only by adequate medical supervision and direction of the Blood Bank facilities; and

WHEREAS, the Blood Bank Committee of the California Medical Association maintains an intimate supervisory relationship with the twelve member banks of the California Blood Bank System; and

WHEREAS, any decrease in the size of this committee may curtail the adequate and efficient function of said committee; now, therefore, be it

Resolved: That the Pathology Section of the Los Angeles County Medical Association and the Los Angeles Society of Pathologists conjointly question the advisability of any reduction in the Califor-

nia Medical Association Blood Bank Committee from its present strength of twelve (12) members, as contemplated by the California Medical Association Council and Committee on Committees of the California Medical Association; and be it further

Resolved: That the Council of the California Medical Association be informed that the Pathology Section of the Los Angeles County Medical Association and the Los Angeles Society of Pathologists together feel that such reduction would not be in the public interest and could lead to substantial reduction of medical control of the function of Blood Banking with concomitant increase in nonmedical control of same in the State of California; and be it further

Resolved: That copies of this resolution be forwarded to all officers of the California Medical Association and members of the California Medical Association Council, all members of the California Medical Association Committee on Committees, and to the chairman and members of the California Medical Association Blood Bank Committee.

ACTION: *Adopted by House.*

‘ ‘ ‘

MEDICAL EMERGENCY INFORMATION

Resolution No. 51.

Author: Los Angeles County delegation.

WHEREAS, medical emergencies may necessitate treatment by a physician unfamiliar with particular afflictions, allergies, or dependency upon certain drugs; and

WHEREAS, communication of such information by medical identification cards, tags, emblems and bracelets has not been utilized to its fullest extent; now, therefore, be it

Resolved: That C.M.A. at its annual session endorse the principle of medical identification cards and emblems, and promptly initiate an aggressive public relations program to both the general public and the medical profession; and be it further

Resolved: That kits of identification cards and pamphlets be made available as a public service for distribution from physicians' offices, hospitals, and county medical headquarters; and be it further

Resolved: That, the idea of miniature 16 to 20 mm. decals with various types of medical identification for attachments to watch backs or metal plastic emblems be investigated as another modality. If the cost of decals necessitates a token charge, any income shall be assigned to American Medical Educational Foundation.

ACTION: *Referred to Commission on Community Health Services.*

MEDICAL EMERGENCY INFORMATION

Resolution No. 52.

Author: Los Angeles County delegation.

WHEREAS, Medical Emergency Committees are in need of active participation by more physicians than presently available, especially in urban communities; and

WHEREAS, county and local medical societies have sponsored panels of volunteer physicians in this regard; and

WHEREAS, there is a vast untapped source of qualified physicians in metropolitan areas who could augment the list of doctors presently on the panels, and, also who most deserve such opportunity for such limited financial reward; now, therefore, be it

Resolved: That C.M.A. encourage interns and resident physicians to apply for affiliate membership in their respective county medical societies; and be it further

Resolved: That C.M.A. request its Delegates to the A.M.A. to urge the Council on Medical Education and Hospitals to encourage the use of interns and residents in such emergency care both to enhance their experience as physicians and as a public service to the communities in which they reside.

ACTION: *Adopted by House.*

‘ ‘ ‘

THE MALPRACTICE PROBLEM

Resolution No. 53.

Author: Los Angeles County delegation.

(Resolution No. 80 was combined with No. 53 by the reference committee and the following substitute offered.)

WHEREAS, the malpractice problem throughout the country, and particularly in California, has reached stupendous proportions; and

WHEREAS, there still remains an apparent eagerness on the part of many attorneys to file professional liability claims; and

WHEREAS, every alleged case of professional liability is not "practice conducted in a careless, reckless and negligent manner"; and

WHEREAS, there is necessarily a difference between malpractice and a "poor result"; and

WHEREAS, by reason of the wide publicity this is being given by the press, public confidence in the medical profession is being undermined; now, therefore, be it

Resolved: That the C.M.A. instruct its legislative and liaison committees to continue to work with the State Bar Association in an effort to introduce legislation in the State Assembly to the effect

that plaintiff's attorneys must post a \$2,500 bond at the time of filing a professional liability suit in the State of California so as to cover fees, court costs, etc.; and be it further

Resolved: That the parent associations offer some constructive programs which will discourage malicious and frivolous prosecutions in all fields.

ACTION: *Adopted by House.*

CORONER—QUALIFICATIONS

Resolution No. 54.

Author: Los Angeles County delegation.

WHEREAS, the chief function of the Coroner is to diagnose the cause of death when it occurs under medicolegal circumstances; and

WHEREAS, this is entirely a medical procedure which requires medical training for its accomplishment; and

WHEREAS, the law of California allows unqualified persons to diagnose the cause of death when it occurs under medicolegal circumstances and to sign the death certificate; and

WHEREAS, the life, liberty, property and estate of many citizens depends upon an accurate conclusion by the Coroner as to the cause of death; and

WHEREAS, the welfare of the people of California requires that the most competent persons available be obtained to perform this important function; and

WHEREAS, the inquest is a legal rather than a medical procedure, and can more efficiently be conducted by a person with legal training; now, therefore, be it

Resolved:

1. That the Coroner or Medical Examiner in all counties should be required to have a license as a physician and surgeon, and wherever possible he should be a Pathologist; and

2. That such office should be filled by appointment rather than election; and

3. In all counties where the Coroner is not a Forensic Pathologist he should be afforded consultation with a Forensic Pathologist and technical laboratory services; and

4. That the office of Coroner should not be combined with any other office; and

5. That when an inquest is held

(a) The Coroner's jury should not be empanelled unless requested by the district attorney, the sheriff, the city prosecutor, the chief of police, the coroner or demanded in writing by a member of the immediate family of the deceased,

(b) Counsel for any witness or interested person should have the right to call and examine witnesses,

(c) It should be presided over by a member of the State Bar other than the District Attorney, any prosecuting attorney, or member of their staffs and such presiding officer should be independent of the Office of Coroner; and

6. That a special committee be appointed by the President to study this problem and to work with the State Bar with the hope that remedial legislation can be developed which will be supported both by the State Bar and the California Medical Association.

ACTION: *Adopted by House.*

ENDORSEMENT OF SEAT-BELTS

Resolution No. 55.

Author: Los Angeles County delegation.

WHEREAS, many unnecessary deaths could be prevented by the increased usage of automobile seat-belts; and

WHEREAS, the Association of Automobile Manufacturers has recognized this to the extent of installing brackets for seat-belts as safety equipment in the 1961 models; now, therefore, be it

Resolved: That the California Medical Association send a letter of commendation to the Association of Automobile Manufacturers; and be it further

Resolved: That an active public relations program be carried out for greater usage of seat-belts by the general public; and be it further

Resolved: That local medical societies make an effort to send letters of commendation to the local automobile distributors who actively endorse the use of seat-belts.

ACTION: *Adopted by House.*

OAS—OPHTHALMOLOGY

Resolution No. 56.

Author: Sidney W. Penn.

Representing: Los Angeles County.

WHEREAS, the California Public Assistance Medical Care Program, rendering eye care to the Old Age Security recipients since October 1960, gives equal recognition to the physicians and surgeons (ophthalmologists) and nonmedical refractionists (optometrists), as to status and fees; and

WHEREAS, the ophthalmologists are required to have approximately 12 years post high school training compared to approximately 5 years post high school training for optometrists; and

WHEREAS, the physicians and surgeons (ophthalmologists) are licensed to diagnose and treat pa-

tients by the use of drops, drugs and surgery whereas the optometrists are not so licensed; and

WHEREAS, the recognition given to the optometrists under the present California Public Assistance Medical Care Program rendering eye care to the Old Age Security recipients confuses them in the eyes of the public with physicians and surgeons (ophthalmologists) who are licensed to diagnose and treat ocular disorders; and

WHEREAS, the physicians and surgeons (ophthalmologists) have a legal responsibility to thoroughly diagnose and treat patients coming to them for examination under penalty of malpractice and the optometrists do not have comparable responsibility; and

WHEREAS, the principal objective of the Profession of Medicine is the alleviation of suffering, enhancement and prolongation of human life and that of the medical specialty, ophthalmology, the preservation, restoration and improvement of human eyesight; now, therefore, be it

Resolved: That the California Medical Association express to the Governor of the State of California and the Department of Social Welfare, its disapproval of the policy adopted by the Social Welfare Department which fails to differentiate the physicians and surgeons (ophthalmologists) and the non-medical refractionists (optometrists); and be it further

Resolved: That the Governor of the State of California direct the State Department of Social Welfare to recognize the differences in professional education and legal responsibilities between the physicians and surgeons (ophthalmologists) and the nonmedical refractionists (optometrists); and be it further

Resolved: That an ophthalmologist be appointed to assist the Medical Director of the Department of Social Welfare for each County in the State of California in the operation of the California Public Assistance Medical Care Program rendering eye care to the Old Age Security recipients, advising as to fees and details of administration to best accomplish the objectives of the preservation, restoration and improvement of human eyesight; and be it further

Resolved: The Director of the State Department of Welfare meet with representatives of the California Medical Association and with representatives from county medical societies of the State of California to discuss the California Public Assistance Medical Care Program rendering eye care to the Old Age Security recipients.

ACTION: Referred to Liaison Committee to State Department of Social Welfare.

OAS PROGRAM

Resolution No. 57.

Author: Douglas Donath.

ACTION: Withdrawn by author in favor of Resolution No. 69.

SHORTAGE OF PHYSICIANS

Resolution No. 58.

Author: Douglas Donath.

Representing: Los Angeles County.

WHEREAS, both the President and Past President of the United States have expressed approval of a program to increase the number of physicians in this country by 50 per cent in the next decade, as proposed by the President's Commission on National Goals; and

WHEREAS, the alleged shortage of physicians may not exist in fact, but be a political conclusion based on disregard of recent improvements in medical care and the greater access now available to medical centers, which decreases the need for physicians in more remote areas: now, therefore, be it

Resolved: The California Medical Association conduct a questionnaire poll of all physicians in California, so as to determine from the physicians' own experience whether such an alleged shortage exists; and be it further

Resolved: The members of the California Medical Association be urged to send similar questionnaires to colleagues in other states; and be it further

Resolved: That the findings of such a questionnaire be given maximum publicity.

ACTION: Referred to Bureau of Research and Planning.

LOANS TO MEDICAL STUDENTS

Resolution No. 59.

Author: Alameda-Contra Costa County delegation.

WHEREAS, it is the desire of physicians to encourage properly qualified persons to study medicine; now, therefore, be it

Resolved: That the California Medical Association set aside a portion of the funds collected each year for the American Medical Education Foundation and employ these funds for grants and/or loans to qualified and needy medical students who are residents of the State of California; and be it further

Resolved: That the California Medical Association encourage each component local medical association to seek to assist financially residents of its own county who are qualified, needy students in accredited medical schools; and be it further

Resolved: That the public relations values to be derived from such grants and/or loans be exploited in public as well as medical publications.

ACTION: *Referred to Council.*

1 1 1

ORIENTATION FOR MEDICAL STUDENTS

Resolution No. 60.

Author: Alameda-Contra Costa County delegation.

WHEREAS, some graduates of California medical schools, while excellently trained in the art and science of medicine, begin their medical careers with no information about or understanding of the political, economic, legal and social problems of the medical practitioner and his professional societies; now, therefore, be it

Resolved: That the California Medical Association recommend to California medical schools, and assist in the implementation of, courses in medical civics, whose purpose shall be to create in new doctors an understanding and appreciation of the non-clinical problems which beset the practice of medicine, and the proper roles of his professional organizations in their solution; and be it further

Resolved: That the California Medical Association encourage component societies to extend every courtesy to medical students, interns, and residents within their areas, by creating "guest memberships" which will permit such students and doctors to become informed about the activities and problems of medical associations by receiving the society's publications and membership mailings, and by attending its meetings as guests.

ACTION: *Adopted by House.*

1 1 1

PUBLIC RELATIONS

Resolution No. 61.

Author: Alameda-Contra Costa County delegation.

ACTION: *Not adopted by House.*

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GENERIC NAMES OF DRUGS

Resolution No. 62.

Author: Alameda-Contra Costa County delegation.

ACTION: *Not adopted by House.*

1 1 1

Resolution No. 63: See Resolution No. 42.

1 1 1

OFFICIAL SPEAKERS' PANELS

Resolution No. 64.

Author: C. G. Scarborough.

Representing: Santa Clara County.

WHEREAS, medical care in the U. S., free of governmental or other control, has produced the high-

est level of medical care in the world for all the public; and

WHEREAS, governmental social planners and unions and other groups are continually attempting to impose third party control on medical practice to the detriment of the public and physicians alike; and

WHEREAS, in all public exchanges affecting the economic, social or governmental aspects of medicine, organized medicine has depended for spokesmen on its elected officers, who—with all due respect—are not invariably elected for their oratorical and debating abilities; and

WHEREAS, union and governmental spokesmen are uniformly chosen for their speaking ability as a prime consideration; and

WHEREAS, this very ability to think quickly on one's feet and to respond in discussion accurately and with telling effect is a special attribute not necessarily possessed by our elected officers; and

WHEREAS, the impression of medicine's ideals, aims, accomplishments and future programs gained by the public in all such public exchanges depends in great part on the speaking ability and quick-wittedness of medicine's representatives; now, therefore, be it

Resolved: That organized medicine choose a select small group of experienced speakers from its own membership—who may or may not be holding office in any of medicine's echelons—to represent medicine's official point of view as spokesmen or as speakers' panels in all public exchanges and negotiations; and be it further

Resolved: That the C.M.A. Council be charged immediately with selecting and activating such a Speakers' Panel for California; and be it further

Resolved: That C.M.A. Delegates to the A.M.A. be instructed to introduce resolutions and take whatever other action is necessary to implement this program at the A.M.A. level and to encourage other state and local societies to do likewise.

ACTION: *Adopted by House.*

1 1 1

RELATIVE VALUE CONVERSION FACTOR

Resolution No. 65.

Author: Edward Liston.

ACTION: *Not adopted by House.*

1 1 1

RELATIVE VALUE CONVERSION FACTOR

Resolution No. 66.

Author: Edward Liston.

Representing: Santa Clara County.

WHEREAS, The California Physicians' Service has accepted the Relative Value Study as a basis for all future contracts; and

WHEREAS, the California Physicians' Service applies a fixed conversion factor to statewide contracts; and

WHEREAS, the Federation of Foundations has developed a contract under the Federal Employees Insurance Plan which utilizes a uniform statewide premium for the combined Foundations which constitute the Federation; and

WHEREAS, the Federation of Foundations has been able to make an arrangement, with the agreement of its component Foundations, which accepts the principle of varying conversion factors appropriate to various communities; now, therefore, be it

Resolved: That the California Physicians' Service in future statewide contracts should make provision for the use of varying conversion factors appropriate to various communities.

ACTION: *Referred to C.M.A.-C.P.S. Liaison Committee.*

RELATIVE VALUE CONVERSION FACTOR

Resolution No. 67.

Author: Edward Liston.

Representing: Santa Clara County.

(Resolution No. 90 was combined with No. 67 by the reference committee and the following substitute resolution offered.)

WHEREAS, government becomes a vendee when it provides medical care for indigents or nonresidents; it should pay a reasonable fee for such medical services, as it does for any other services it purchases; now, therefore, be it

Resolved: That physicians rendering medical services receive adequate and acceptable remuneration commensurate with the average fees for such services in the community.

ACTION: *Adopted by House.*

RELATIVE VALUE CONVERSION FACTOR

Resolution No. 68.

Author: Edward Liston.

ACTION: *Not adopted by House.*

HEALTH EVALUATION PROJECT

Resolution No. 69.

Author: Edward Liston.

Representing: Santa Clara County.

WHEREAS, a new research project of health evaluation of the aged group 65 to 69 has been initiated by the State Department of Social Welfare under the OAS program; and

WHEREAS, this new research project will be enormously expensive because the minimum cost of health evaluation of each individual will be \$71.60 each and it is estimated the average total cost for each individual will be \$120.00; and

WHEREAS, the relatively few individuals undergoing this research health evaluation may gain some health benefit, the bulk of the beneficiaries of the OAS program would benefit more if funds were not diverted from patients' necessary care to research projects; and

WHEREAS, the C.M.A. obviously does not oppose physical examinations at any age; and it is an established fact, which needs no further research, that physical examinations detect preventable disease; and

WHEREAS, the C.M.A. believes that clinical services to beneficiaries of OAS are more important than bureaucratic statistical analysis until the contrary is proved; now, therefore, be it

Resolved: That diversion of large sums of public money to a research project of health evaluation of one small age group only is unjustified while the bulk of the beneficiaries of OAS are deprived of the medical care which would be more than readily available if the inequities of the existing program were corrected; and be it further

Resolved: That the officers of the C.M.A. register with the State Welfare Department the active opposition of the C.M.A. to this research project.

ACTION: *Adopted by House.*

NURSING EDUCATION FOUNDATION

Resolution No. 70.

Author: Leon P. Fox.

Representing: Santa Clara County.

WHEREAS, the Committee on Other Professions has completed, by direction of this House of Delegates, the survey of the Hospital Diploma Schools of California to determine if financial aid could preserve the remaining schools; and

WHEREAS, this summary has confirmed the alleged precarious financial position of these schools and their estimated minimal need of \$600 per student per year to continue as a valuable source of dependable bedside nurses; and

WHEREAS, these schools are now unique in that they are forbidden tax paid scholarships for students in contrast to educational institutional nursing schools; and

WHEREAS, patient supported hospitals have continued to bear the prohibitive costs of maintaining expensive mandatory faculty and facilities; and

WHEREAS, the medical profession has multiple interests in the promotion and continuation of all sources of qualified nursing personnel at the least cost to patients; and

WHEREAS, the cost of 3.5 million dollars annually, although huge, does not seem insurmountable for such a valuable cause, now, therefore, be it

Resolved: That the Committee on Other Professions investigate further the possibility of establishing a Nursing Education Foundation with philanthropic support as well as further considering unencumbered tax supported assistance for these schools, and that a report on their progress be made at the next annual session; and be it further

Resolved: That the Committee on Legislation encourage the necessary legislative action which will afford the Hospital Diploma Schools the same scholarship support as now provided to Educational Institutional Schools; and be it further

Resolved: That the Committee on Other Professions be commended for their time-consuming and well-conducted, concise survey and report; and be it further

Resolved: That the delegates to the American Medical Association give attention to possible similar action at the House of Delegates in June, 1961.

ACTION: *Referred to Council.*

MINIMUM CARE UNITS

Resolution No. 71.

Author: T. N. Foster.

Representing: Santa Clara County.

WHEREAS, modern hospital care has become rapidly much more expensive; and

WHEREAS, many patients in acute hospitals do not require the more elaborate care and facilities provided therein; and

WHEREAS, such expensive care results in unduly high premia with resultant ill will engendered for hospitals, the medical profession, and voluntary health insurers; and

WHEREAS, many patients could be cared for in a much more economical manner in minimum care units of hospitals wherein only minimum nursing care and perhaps cafeteria type feeding would be provided; and

WHEREAS, such minimum care hospitalization could be provided at greatly reduced cost; now, therefore, be it

Resolved: That the C.M.A. encourage the development of minimum care units in all California hospitals; and be it further

Resolved: That copies of this resolution be sent to all California hospitals; and be it further

Resolved: That adoption of a similar resolution be urged at the A.M.A.

ACTION: *Adopted by House.*

COVERAGE FOR CONVALESCENT HOSPITAL CARE

Resolution No. 72.

Author: T. N. Foster.

Representing: Santa Clara County.

WHEREAS, most health insurance provides hospitalization which is relatively high in cost, but does not provide convalescent hospital care in lieu of same, even though the latter is lower in cost; and

WHEREAS, particularly in the over 65 age group, hospitalization could be made available at lower cost by utilization of such facilities; and

WHEREAS, utilization of such facilities under insurance would lower costs and thereby lower premia of insurance; and

WHEREAS, many hospital beds are occupied by patients who could well be cared for in convalescent hospitals thus creating an artificial shortage of acute hospital beds; and

WHEREAS, many of the over 65 age group are prematurely shifted from acute hospitals to convalescent hospitals to make available acute hospital beds for emergency care, but in so doing create ill will for physicians, hospitals, and insurance carriers alike; and

WHEREAS, these circumstances lend support to the proponents of Federal intervention, especially in the over 65 age group; now, therefore, be it

Resolved: That the C.M.A. urge all insurance carriers to make provision in their policies for convalescent hospital care, and that copies of this resolution be sent to all insurers operating in the State of California; and be it further

Resolved: That this resolution be referred to an appropriate committee for action and report to the House of Delegates at its next session.

ACTION: *Referred to Council.*

FALL-OUT SHELTERS

Resolution No. 73.

Author: Edward Liston.

Representing: Santa Clara County.

WHEREAS, there is no known defense against the direct effects of atomic bombstrike; and

WHEREAS, very effective defense against the effects of blast, heat and fall-out radiation is possible; and

WHEREAS, the country with the highest percentage of survivors will be the so-called victor in any atomic conflict; and

WHEREAS, the efforts of the American people to provide for their personal survival has been negligible; and

WHEREAS, the public apathy is of great concern to the medical profession which has some appreciation of the consequences of an atomic holocaust; and

WHEREAS, while government has given endless warnings and excellent advice, it has given no concrete incentive to the public to provide fall-out shelters for their own protection; now, therefore, be it

Resolved: That the C.M.A. urges the immediate legislation at all governmental levels which will provide strong economic motivation for the construction and maintenance of fall-out shelters; and be it further

Resolved: That the C.M.A. delegation to the A.M.A. be instructed to present and support a similar resolution at the next meeting of the A.M.A.

ACTION: *Adopted by House.*

✓ ✓ ✓

BASIC SCIENCE LAWS

Resolution No. 74.

Author: T. N. Foster.

Representing: Santa Clara County.

Resolved: That this House of Delegates go on record as favoring implementation of an initiative for a Basic Science Law in the State of California and request the Osteopathic group to go along with it.

ACTION: *Adopted by House.*

✓ ✓ ✓

DRUG ADDICTION

Resolution No. 75.

Author: Robert L. Dennis.

ACTION: *Not adopted by House.*

✓ ✓ ✓

Resolution No. 76: See Resolution No. 9.

✓ ✓ ✓

24th AMENDMENT

Resolution No. 77.

Author: Robert Burchfiel.

ACTION: *Not adopted by House.*

✓ ✓ ✓

GENERAL PRACTITIONER OF THE YEAR

Resolution No. 78.

Author: Burt L. Davis.

Representing: Santa Clara County.

WHEREAS, there are doctors in all branches of medical practice who are worthy of commendation and special notice; and

WHEREAS, the American Medical Association in recent years has made an award to the "General Practitioner of the Year"; and

WHEREAS, in the method of selection of the individual who is to receive this award the Section on General Practice plays no part; and

WHEREAS, there arise occasions when others besides General Practitioners and more than one physician and surgeon should be so commended; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association instruct the California delegation to the House of Delegates of the American Medical Association to enter a resolution in that house whereby the custom of giving an award for "General Practitioner of the Year" shall be so altered that a Certificate or Certificates of Special Commendation shall be issued by the House of Delegates of the American Medical Association to any member or members of the American Medical Association who may by his service to the Science and Art of Medical Practice or service to his community, state or nation or in any other matter is deemed to have proven himself deserving of special commendation for service above and beyond that of his usual calling.

ACTION: *Adopted by House.*

✓ ✓ ✓

OSTEOPATHIC AGREEMENT

Resolution No. 79.

Author: S. Robert Polito.

ACTION: *Not adopted by House.*

✓ ✓ ✓

Resolution No. 80: See Resolution No. 53.

✓ ✓ ✓

OAS FEES

Resolution No. 81.

Author: Malcolm C. Todd.

Representing: Los Angeles County.

Resolved: That the C.M.A. recommend to the California Department of Social Welfare the adoption of the 1960 C.M.A. Relative Value Studies as a guide for fees instead of the obsolete 1957 Relative Value Study.

ACTION: *Adopted by House.*

✓ ✓ ✓

C.M.A.-C.O.A. MERGER

Resolution No. 82.

Author: A. J. Haschka.

ACTION: *Withdrawn by author.*

PHYSICIAN IDENTIFICATION

Resolution No. 83.

Author: Alameda-Contra Costa County delegation.

WHEREAS, Section 21058 of the California Motor Vehicle Code requires that a physician who encounters a traffic officer en route to the rendering of aid in an emergency, in addition to being able to prove to the officer that the situation is truly an emergency, must also display a medical insignia on his automobile, approved by the Department of Motor Vehicles; and

WHEREAS, the right of a physician to have his professional identification listed upon his operator's license is not consistently allowed, nor guaranteed by any state statute; and

WHEREAS, the use of such operator's license identification would eliminate the need for using the car insignia, which in turn encourages narcotic theft and in other ways needlessly identifies the automobiles of physicians; now, therefore, be it

Resolved: That the California Medical Association ask the Department of Motor Vehicles to amend Section 21058 to the extent that the department approved insignia is not required of physicians en route to emergencies, and that all physicians be allowed to include "M.D." after the appearance of their names on operators' licenses.

ACTION: *Referred to Council.*

ROLE OF COUNTY HOSPITALS

Resolution No. 84.

Author: John H. Manwaring.

Representing: Marin Medical Society.

WHEREAS, the California Medical Association has expressed great concern for the health standards of citizens who may be in need and is most anxious that these citizens receive the best possible medical care; and

WHEREAS, major changes are occurring in the pattern of health needs and facilities required for patient care, due to the improvement of medical procedures and treatment; and

WHEREAS, fundamental alterations have occurred in financial support, insurance coverage and state matching fund programs which have modified the traditional pattern requiring large centralized county hospital facilities; now, therefore, be it

Resolved: That an appropriate committee of the California Medical Association study the future place of the county hospital in the modern care of the medical needy and submit recommendations which will permit this group of citizens to harvest all the benefits, flexibility and attention in the field of medical care that is available to individual private citizens; and be it further

Resolved: That these recommendations be made known to the appropriate divisions of the government at all levels so that it may have the best advice obtainable in making plans for providing local government hospital facilities, rest homes, etc., in the future.

ACTION: *Adopted by House.*

MEDICAL MARKETING STUDY

Resolution No. 85.

Author: Tenth District.

WHEREAS, the fate of private medical practice as known today is dependent upon finding and supporting a favorable solution to the problem of marketing medical care; and

WHEREAS, trusting to solutions by government, private agencies, and isolated groups has compounded such marketing difficulties; now, therefore, be it

Resolved: That a bureau or commission devoted to the marketing of medical care be charged with the study, research, and evaluation of all possible medical care marketing methods, the purpose being to place the C.M.A. in a more informative position to guide and properly influence medical economic programming in California.

ACTION: *Referred to Council.*

SOCIAL SECURITY

Resolution No. 86.

Author: Albert G. Miller.

Representing: San Mateo County.

WHEREAS, the image of organized medicine has been distorted to the nation's oldsters and social security recipients; and

WHEREAS, it is our duty to be empathic to these segments of our population; now, therefore, be it

Resolved: That we encourage the A.M.A. Board of Trustees to openly approve present legislation by Congressman Hosmer (R) California (HR 4248). This is to amend the Social Security Act to increase the amount of outside earnings permitted and to deduct from an individual's earnings allowed the amount of his medical expenses for any year.

ACTION: *Adopted by House.*

SPORTS INJURY INSURANCE

Resolution No. 87.

Author: San Francisco delegation.

WHEREAS, no form of catastrophic health and injury insurance at a reasonable premium is available to California school students against serious or

totally disabling injuries sustained as a result of participation in supervised athletic programs and/or competitive sports; and

WHEREAS, such insurance should adequately cover medical care in its broadest sense; and

WHEREAS, the financing and care of such a serious or total disability in a school student is beyond the financial means of the average family; and

WHEREAS, at present in many areas parents must waive the school's liability, before the student can participate; now, therefore, be it

Resolved: That the C.M.A. urge the California legislature to enact such laws as will permit Boards of Education in California or their designates, to procure and to pay for group catastrophic insurance covering seriously disabling injuries in school students participating in authorized or supervised sports.

ACTION: *Referred to Council.*

NOTIFICATION TO PHYSICIAN

Resolution No. 88.

Author: San Francisco delegation.

WHEREAS, it is the responsibility of the physician to determine the need for hospitalization or other care for his patient; and

WHEREAS, it is the practice of certain insurance companies, including C.P.S. and Blue Cross to dispute in many instances the need for hospitalization; and

WHEREAS, it is the practice of these insurance companies to publish this disagreement to the patient in a manner which often undermines his confidence in his physician; now, therefore, be it

Resolved: That the California Medical Association go on record as disapproving of such practices; and be it further

Resolved: That before publication of such disagreement to the patient the insurance carrier first advise the physician of such a disagreement to allow the physician to state all the facts of the case; and be it further

Resolved: That in case of continued disagreement between the insurance carrier and the physician such disagreement be then brought before the appropriate mediation committee for adjudication.

ACTION: *Referred to Council.*

C.P.S. IMPROVEMENT

Resolution No. 89.

Author: San Francisco delegation.

WHEREAS, portions of the C.P.S. fee schedule have been and remain inadequate to fully compensate the physician for his services; and

WHEREAS, adequate coverage is not possible with service insurance without a continuous subsidy by its physician members; and

WHEREAS, C.P.S. was originally organized to provide a sickness service mechanism for low income groups; and

WHEREAS, the ceiling on C.P.S. plans has been raised making them competitive with private insurance companies selling indemnity-type coverage; and

WHEREAS, private insurance companies should be encouraged to develop and sell high standard prepaid medical care insurance plans; now, therefore, be it

Resolved: That the C.M.A. cooperate with the insurance industry in formulating standards for the best possible prepaid medical insurance plans; and be it further

Resolved: That C.P.S. be commended for its effectiveness in providing coverage for the low income groups and for the meritorious part it has played in the Veterans Home Town Program and other federal and state programs; and be it further

Resolved: That C.P.S. continue to perfect its organization for the purpose of caring for low income groups, for the administration of established government plans and for conducting experimental plans at the request of the C.M.A.

ACTION: *"Resolved" portions adopted by House with notation that some of the "Whereas" portions are inaccurate.*

Resolution No. 90: See Resolution No. 67.

PATIENT PARTICIPATION

Resolution No. 91.

Author: San Francisco delegation.

WHEREAS, patient-participation in the expense of insured medical losses has served both to increase the benefits and lower the cost of all types of health insurance to which this principle has been applied; and

WHEREAS, the concept of patient participation in the costs of insured sickness is currently under strong attack; now, therefore, be it

Resolved: That the House of Delegates reaffirm its endorsement of this vital health insurance principle.

ACTION: *Adopted by House.*

MAJOR MEDICAL

Resolution No. 92.

Author: San Francisco delegation.

WHEREAS, health insurance of the type known as major medical has been notably successful in pro-

viding, at low cost, realistic protection against the costs of major illness; and

WHEREAS, the concept of major medical insurance is now under attack; now, therefore, be it

Resolved: That the House of Delegates of the C.M.A. reaffirm its endorsement of the concept of major medical insurance and direct its Medical Insurance Committee to continue to study means of enhancing the successful operation of such plans.

ACTION: *Adopted by House.*

COSTS OF HOSPITALIZATION

Resolution No. 93.

Author: San Francisco delegation.

WHEREAS, the costs of hospitalization, which constitute the greatest factor among the many which are included in the total cost of medical care, have continued to climb at an alarming rate; and

WHEREAS, the physician is not, as is generally believed, in control of the total cost of medical care, including the costs of hospitalization; now, therefore, be it

Resolved: That the C.M.A. Committee on Hospitals be directed to undertake a study of the costs of various hospital services and current trends in hospital management, and that it report its findings to the House of Delegates of the C.M.A. at the 1962 Annual Session.

ACTION: *Referred to Council.*

PRINCIPLES

Resolution No. 94.

Author: San Francisco delegation.

WHEREAS, the best medical care embodies professional service provided for the individual patient by the individual physician; and

WHEREAS, the best medical care is based upon a covenant between the individual patient and the individual physician; and

WHEREAS, implicit in this covenant between the individual patient and the individual physician is their right to establish a fee; and

WHEREAS, the best medical care includes the right of the individual patient to select his physician and the right of the individual physician to select his patient; and

WHEREAS, the voluntary insurance principle is in agreement with the concept of the best medical care; now, therefore, be it

Resolved: That these principles shall govern the negotiation and acceptance of plans for medical care.

ACTION: *Referred to Council.*

BORDERLINE CASES

Resolution No. 95.

Author: San Francisco delegation.

WHEREAS, many sickness insurance policies are designed not for the diagnosis but for treatment of disease; and

WHEREAS, in the nature of things there are and always will be "borderline cases" in most of which the justifiability of hospitalization is questioned by the insurer and payment refused; and

WHEREAS, such refused borderline cases constitute but a very small percentage of all hospitalized cases; and

WHEREAS, refusal of a claim often results in a great deal of very poor public relations; now, therefore, be it

Resolved: That all such insurance carriers be requested by the C.M.A. to be more realistic in the interpretation of such borderline cases.

ACTION: *Referred to Council.*

GUIDING PRINCIPLES FOR PHYSICIANS-HOSPITAL RELATIONSHIPS

Resolution No. 96.

Author: Samuel R. Sherman.

Representing: The Council.

WHEREAS, the Guiding Principles for Physician-Hospital Relationships were accepted and their implementation urged by the 1960 House of Delegates; and

WHEREAS, many county societies and hospital staffs have accepted these principles and started their implementation; and

WHEREAS, much work needs to be done if our profession is to fulfill its covenant with the public to strive continually to improve medical knowledge and skill, and make available to our patients and colleagues, the benefit of our professional attainments; and

WHEREAS, if we fail to exercise the responsibilities of this voluntary trusteeship, which has been the ancient tenet of the profession, others stand waiting and demanding to undertake it;

WHEREAS, compulsory legislation to regulate hospital medical staff activity is currently being considered by our State Legislature; now, therefore, be it

Resolved: That this House of Delegates urge each hospital medical staff to implement the Guiding Principles for Physician-Hospital Relationships without further delay; and be it further

Resolved: That each delegate and alternate of this House of Delegates assert active leadership in implementing the intent and purpose of this resolution.

ACTION: *Adopted by House.*

COMPENSATION OF INTERNS

Resolution No. 97.

Author: Samuel R. Sherman.

Representing: The Council.

WHEREAS, the House of Delegates at the 1960 annual session, by Resolution No. 16, directed C.M.A. to "undertake studies to determine and action to implement a policy to achieve for interns and resident physicians a monetary compensation commensurate with the years of study, hours of work, and public benefit achieved by such individuals in all institutions approved for internship and residency training"; and

WHEREAS, consultation with the C.H.A. has resulted in their Board of Trustees recommending that such a study should be undertaken at a national level by A.H.A. and A.M.A.; and

WHEREAS, the long standing policy of A.M.A. has been that a "reasonable and uniform maximum figure for the remuneration of interns and residents be established, so that the monetary value of internships and residencies may not act as a deciding factor in the applicants for such training; now therefore, be it

Resolved: That the C.M.A. Delegates to the A.M.A. present a resolution recommending that A.M.A. appoint a committee to undertake with a committee from A.H.A., an appropriate study at a national level upon which recommendations can be made to guide in the establishment of reasonable minimum figures for the remuneration of interns and residents, taking into account such things as varying cost of living in geographic areas of this country, years of study, hours of work, incidental emoluments, public benefit, the professional advancement and training they receive and such other factors as are deemed appropriate.

ACTION: *Adopted by House.*

IDENTIFICATION OF "COSTS OF ILLNESS"

Resolution No. 98.

Author: Robert M. Dorn.

Representing: Los Angeles County.

WHEREAS, the cost of illness has been erroneously termed the cost of medical care, and

WHEREAS, the doctor of medicine has been erroneously blamed for the increasing cost of illness, and

WHEREAS, the greatest portion of the increased cost of illness is acknowledged to be the cost of hospitalization; now, therefore, be it

Resolved: That the California Medical Association will foster the principle of differentiating the physicians' fees from all other costs of illness; and be it further

Resolved: That the California Medical Association and its component societies, committees and individuals will acknowledge, in their deliberations and negotiations, the separation and clear delineation of physicians' fees from hospital charges, drug costs and other costs of illness.

ACTION: *Referred to Council.*

NAMES OF DRUGS

Resolution No. 99.

Author: Edgar F. Mauer.

Representing: Los Angeles County.

WHEREAS, current practices of naming drugs, now controlled by drug manufacturers, have resulted in a multitude of different names for the same drug thereby causing confusion and endangering both patient and physician; and

WHEREAS, since the A.M.A. Council on Pharmacy and Chemistry has been relieved of the responsibility for applying names to new drugs; and

WHEREAS, of recent years the so-called generic names for drugs are now devised by manufacturers and made so complex that they cannot be used; and

WHEREAS, counterfeited drugs have been shown to consist exclusively of copies of high priced drugs protected by trade names; and

WHEREAS, there is no scientific or medical reason for this multiplicity of names; and

WHEREAS, this practice appears to be solely for the purpose of gaining economic advantage for drugs sold by trade name; and

WHEREAS, this practice results in increased cost of drugs, in some cases 5 or 6 fold; and

WHEREAS, such costs needlessly incurred, result in waste and criticism of the medical profession; therefore, be it

Resolved: That the C.M.A. inform the A.M.A. and the Pharmaceutical Manufacturers Association that a single name should be used for all drugs which are identical and that it is recognized that the name of preferred manufacturers may be appended to this name, which should be simple and easy to remember, and be it further

Resolved: That because the function of naming drugs is about to be taken over by the U. S. Pharmacopoeia or the Food and Drug Administration, that this function be speedily returned to medicine, to the A.M.A. Council on Pharmacy and Chemistry, and be it further

Resolved: That advertising in official publications reflect this policy in conformity with present medical editorial policy and teaching in all of our medical schools, and that this House of Delegates instruct our Delegates to the American Medical Association to further these principles by appropriate action.

It must be recognized that a return to such practices will result in better relations between the public, physicians, pharmacists and manufacturers and will again make the writing of a prescription an act of scientific dignity.

ACTION: *Adopted by House.*

‘ ‘ ‘

RELATION OF MEDICINE TO OPTOMETRY

Resolution No. 100.

Author: James A. Spencer.

Representing: Santa Cruz County.

WHEREAS, in 1959 there was introduced in the House of Delegates of the A.M.A. Resolution No. 31 calling for the establishment of a Commission to Study the Relation of Medicine to Optometry, and to report to the House of Delegates; and

WHEREAS, this A.M.A. House of Delegates caused to be established a Subcommittee to Study the Relation of Medicine to Optometry, under the then Joint Committee to Study Paramedical Areas in Relation to Medicine; and

WHEREAS, the original Joint Committee to Study Paramedical Areas in Relation to Medicine has been succeeded by the Committee on Relationships of Medicine with Allied Health Professions and Services; and

WHEREAS, optometrists are not ancillary to medicine, but are independent licensed practitioners, and therefore do not constitute an allied health profession; and

WHEREAS, there exists confusion in the public mind as to the distinction between medical care for patients with ocular complaints and optometric services; and

WHEREAS, the lack of understanding in this area is a threat to the welfare of the patient; therefore, be it

Resolved: That the C.M.A. Delegates to the A.M.A. present a resolution recommending that the A.M.A. House of Delegates establish a Commission

on the Relation of Medicine to Optometry, to be appointed by the Speaker of the House; at least half the members of which commission shall be physicians practicing in the ophthalmological branch of medicine; and be it further

Resolved: That it shall be the specific function of this commission to conduct a broad study, from the standpoint of the public interest, of the problems involved in the present relation of medicine to optometry, and be it further

Resolved: That the Board of Trustees be requested to provide adequate personnel and funds for the proper performance of the duty assigned to this commission; and be it further

Resolved: That this commission shall report to the House of Delegates not later than June 1962.

ACTION: *Referred to Council.*

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SOLUTION OF SOCIO-ECONOMIC AND PUBLIC RELATIONS PROBLEMS

Resolution No. 101.

Author: Henry G. Morgan.

ACTION: *Not adopted by House.*

‘ ‘ ‘

16th AMENDMENT

Resolution No. 102.

Author: John D. Fowler.

ACTION: *Not adopted by House.*

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C.P.S. CONTRACTS

Resolution No. 103.

Author: Allan K. Briney.

ACTION: *Not adopted by House.*

‘ ‘ ‘

ACTION OF CHURCHES ON KERR-MILLS TYPE LEGISLATION

Resolution No. 104.

Author: Wilbur Bailey.

Representing: Los Angeles County.

Resolved: That a committee be appointed by the President of the C.M.A. with power to act in sending a letter to the delegates of the United Presbyterian Church whose names were telegraphed to us by Doctor Blasingame. This letter would consist primarily of the differences between the Kerr-Mills and the Social Security type of legislation as so excellently elucidated by President E. Vincent Askey of the A.M.A. before this House of Delegates.

ACTION: *Adopted by House.*

AUDIO-DIGEST

Resolution No. 105.

Author: Franklin F. Ham.

Representing: Los Angeles County.

WHEREAS, Audio-Digest Foundation has contributed valuable postgraduate education to thousands of physicians not only in California but throughout the world; and

WHEREAS, Audio-Digest Foundation has brought to the California Medical Association much favorable publicity in such widely circulated publications as *Reader's Digest*, *Saturday Evening Post*, *Wall Street Journal* and *Medical Economics*, among other publications; and

WHEREAS, Audio-Digest Foundation, a wholly-owned subsidiary of the California Medical Association, has been a financial success over the past six years; and

WHEREAS, the American Medical Education Foundation and through it the nation's financially needy medical schools have benefited substantially from annual contributions of Audio-Digest Foundation; now, therefore, be it

Resolved: That the House of Delegates of the California Medical Association does hereby express appreciation to Jerry L. Pettis for having conceived the idea and having made it a gift to the California Medical Association: to Doctor Edward Rosenow for his pioneer work in editing the early editions; to Claron Oakley for his continuing competent editorial direction of the venture; and to Mr. K. L. Hamman for his expert business administration of the project.

ACTION: *Adopted by House.*

STAND AGAINST COMMUNISM

Resolution No. 106.

Author: Fred E. Bradford.

Representing: Los Angeles County.

WHEREAS, Communist subversion has produced a state of International tension, which reveals clearly the peril that threatens not only World Peace, but also the very life of the United States of America and its people, and

WHEREAS, it is essential that the people of the United States make it known to the World that its people are soul and heart dedicated against the spread of further Communist subversion, therefore, be it

Resolved: That the California Medical Association in session, April 29-May 3, 1961, memorialize

the President of the United States that it endorses his stand against the Communist Conspiracy, and further that it pledges its unlimited support in any and all measures that the President, and the Congress may take to halt further Communist Aggression not only that directed against the United States, but against Free men anywhere in the World.

ACTION: *Adopted by House.*

C.P.S. DISSOLUTION

Resolution No. 107.

Author: L. H. Garland.

ACTION: *Not adopted by House.*

PROJECT HOPE

Resolution No. 108.

Author: Leon P. Fox.

Representing: Santa Clara County.

WHEREAS, the cold war has made it increasingly obvious that international public relations and inter-people understanding is essential to world peace, and

WHEREAS, the People to People Health Foundation was established by a doctor of medicine with the sole purpose of promoting international public relations; and

WHEREAS, Project Hope, a 200-bed hospital ship, is the first manifestation of the foundation's action, which utilizes the medical organization as its key of operation, in an exchange of ideas, methodology techniques and friendship in foreign lands; and

WHEREAS, this operation is possible only because of the voluntary unstinting and unremunerative work of its founder, Dr. William Walsh, and numerous doctors, nurses and technical personnel in the medical field, many from California; and

WHEREAS, the California Medical Association is glad to recognize the usefulness of such a tremendous potential in good world relations as Project Hope; now, therefore, be it

Resolved: That this House of Delegates commend Dr. William Walsh and the many volunteer physicians, nurses, technologists and ancillary workers from California and other states for their imagination and unstinting efforts in displaying the ideal fiber of American citizenship and the humane philosophy of the medical profession everywhere; and be it further

Resolved: That thanks and commendation be directed to the many eager and cooperative persons, medical and other, in Indonesia who have given of their hospitality and have participated freely in the intellectual and friendship exchange, thus making

the efforts of Project Hope possible; and be it further

Resolved: That the delegates to the American Medical Association offer a resolution before that House of Delegates for approval.

This resolution is submitted by the Sixth District delegation in tribute to the following physicians from that area who have participated in Project Hope to date:

Robert L. Dennis, M.D. . . . Santa Clara County
Richard H. Thompson, M.D. . . San Mateo County
Philip R. Myers, M.D. . . . San Mateo County
Alex Weiskopf, M.D. . . . San Mateo County
John Ratcliffe, M.D. . . . San Mateo County

ACTION: Adopted by House.

RESPONSIBILITY OF C.M.A. OFFICIALS

Resolution No. 109.

Author: Henry G. Morgan.

ACTION: Not adopted by House.

PETITION NO. 1

A petition presented by more than 100 members of the Association under the terms of Chapter XII, Section 5, of the By-Laws, asking that a matter before the House of Delegates be submitted to a referendum of the membership.

ACTION: Not adopted by House.

AMENDMENTS TO CONSTITUTION

Amendments to the Constitution of the California Medical Association are required to lie on the table for one year before being voted upon. One such amendment was introduced in the 1960 House of Delegates and thus was subject to vote in 1961.

This amendment reads as follows:

Author: C. J. Attwood.

Representing: Constitution Study Committee.

Resolved: That Article VIII, Section 3, of the Constitution be amended by deleting the final paragraph of the section, starting with the words "Further, such amendment . . ." and concluding with the words "prior to submission to the House of Delegates for vote." and substituting therefor the following:

"Further, such proposed amendment or amendments shall be referred to the appropriate reference committee, which shall hold hearings on the proposed amendment or amendments during the course of its regular business while the Association is in convention.

"If the proposal or proposals are introduced during the first meeting of the House, hearings shall be held at both the current and the next regular session. In this event, the reference committee shall report at a subsequent meeting of the House at the current session its findings and recommendations on the proposed amendment or amendments; this report shall be solely for the guidance of the reference committee and the House at the regular session at which the amendment or amendments are to be subject to vote. The reference committee at the current session may, with the consent of the author of proposed amendment or amendments, alter, amend or modify the proposed amendment or amendments and offer such altered version at a later meeting

during the current session, together with its recommendations thereon.

"If the proposal or proposals are introduced during the second meeting of the House, hearings on them shall be held at the next regular session, prior to their submission to the House of Delegates for vote."

ACTION: Adopted by House.

1961 AMENDMENTS

Seven proposed amendments to the Constitution were introduced in the 1961 House of Delegates. Under the terms of the 1960 amendment adopted (above) these were subject to review by the Reference Committee in the 1961 House of Delegates and will also be reviewed by Reference Committee No. 4 in the 1962 House before being voted upon in that session.

In some instances the Reference Committee this year suggested that proposed amendments to the By-Laws, which need lie on the table only twenty-four hours, also be deferred until 1962 because of their association with constitutional amendments on the same subject. In the section on By-Law Amendments following this section, such deferral will be noted.

The following Amendments to the Constitution were offered in 1961, all of them placed on the table for definitive action in 1962.

CONSTITUTIONAL AMENDMENT No. 1

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Article I, Section 5, of the Constitution of the California Medical Association shall

be amended, by adding a new sentence at the end of the present section reading as follows:

"Notwithstanding the foregoing, one charter may be issued to a component society that is not limited as to geographical area or which overlaps the area covered by one or more existing component societies.";

and be it further

Resolved: That Article II, Part B, Section 10, be amended by deleting the word "ten" in the first sentence of the section and substituting therefor the word "eleven" and by adding at the foot of the section the following language: "District No. 11, comprising such areas as may be encompassed by a component society chartered in accordance with the terms of Article I, Section 5, of this Constitution, relating to the issuance of charters in excess of one in any county."

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CONSTITUTIONAL AMENDMENT No. 2

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Article III, Part B, Section 10, of the Constitution of the C.M.A. shall be amended by adding the following sentence as a separate subparagraph of said section:

"District No. 11, consisting of any society which is not limited as to geographical area, or the area of which overlaps the area covered by one or more existing component societies; such society and its members shall not be considered to be members of any other councilor district."

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CONSTITUTIONAL AMENDMENT No. 3

Author: James MacLaggan.

Representing: San Diego County.

Resolved: That Article III, Section 2, of the Constitution, which now reads:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates."

is hereby amended to read as follows:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of one delegate."

~ ~ ~

CONSTITUTIONAL AMENDMENT No. 4

Author: Los Angeles delegation.

WHEREAS, the alternate delegates are duly elected representatives of the physicians in their districts; and

WHEREAS, the wishes of the physicians in a district will be best represented by a vote of all of their elected representatives; now, therefore, be it

Resolved: That the Constitution of the California Medical Association be amended as follows:*

ARTICLE III—Government of the Association

Part A—House of Delegates

Section 1—Composition. (b) *Alternate Delegates elected by members of component societies and seated in the place of absent delegates.* Present (b), (c) and (d) to be changed to (c), (d) and (e).

Section 2—Representation. As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates *or Alternate Delegates.*

Section 3—(Alternates) *Alternate Delegates.* (Alternates) *Alternate Delegates* shall be elected, as specified in the By-Laws, in the same manner as delegates are elected. One *Alternate Delegate* shall be seated in place of each delegate absent or disqualified for failure to attend meetings or other cause.

Section 4—Terms of Delegates and (Alternates) *Alternate Delegates.* Delegates and (alternates) *Alternate Delegates* shall serve for two or three years as each component society may determine. One-half or one-third, as the case may be, of the allowed number shall be elected each year.

Section 5—Quorum. A majority of the authorized number of delegates *or alternate delegates seated in their places* shall constitute a quorum.

Section 11—Election of Councilors. District councilors shall be elected by vote of the delegates *and Alternate Delegates* from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a district councilor has been selected, his name shall be submitted to the House by the Chairman of the Delegation from the district, and (1) if there is no challenge by any delegate or *Alternate Delegate seated in place of a delegate* then the speaker shall declare his election completed, and (2) if any delegate or *Alternate Delegate seated in place of a delegate* shall challenge the election on any ground, including fitness of the nominee of the district to serve as a district councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the president, president-elect and one delegate, appointed by the speaker, from the councilor district involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report

*Language deleted shown in parentheses; new language shown in italics.

back to the House. If the committee reports in favor of confirming the nominee's election, the speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee shall be ineligible to serve as the district counselor and the delegates *and Alternate Delegates* from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the speaker.

CONSTITUTIONAL AMENDMENT No. 5

Author: Alameda-Contra Costa delegation.

WHEREAS, under the present Constitution of the California Medical Association, Associate Members are not eligible for leave of absence for either illness or postgraduate study; and

WHEREAS, the financial burden is as great on an Associate Member as on an Active Member under these circumstances; now, therefore, be it

Resolved: That Article IV, Section 3 of the C.M.A. Constitution be amended to read: "The Council, on recommendation of a component society, may grant leaves of absence to active *and associate members* who are seriously ill, etc. . . ."

CONSTITUTIONAL AMENDMENT No. 6

Author: Jerome Klingbeil.

Representing: Los Angeles County (Long Beach).

WHEREAS, a more even and democratic balance must prevail in the California Medical Association and that no county society should have the potential to exceed 50 per cent of the state association membership; and

WHEREAS, when a county medical society encompasses such territory and has a membership larger than a great majority of state medical associations, they cannot properly represent or govern their highly dispersed area groups with widely divergent economic, social, and public relations problems; and

WHEREAS, in such large unwieldy societies effective communication between the governing officers and the members represented is often inadequate and occasionally nonexistent; and

WHEREAS, the strength of organized medicine is most effective when broad participation of the medical profession at a local level is implemented; and

WHEREAS, in large county societies inequities tend to arise in outlying component districts in regard to insurance, legal matters, fees and available facilities; and

WHEREAS, in such large county societies, problems of the peripheral area groups regardless of acuteness or degree of local need often must be ignored or deferred to the routine mechanics of day-to-day business application; and

WHEREAS, precedence for district autonomy within a geographic county area has been established elsewhere; and

WHEREAS, there is no mechanism existing in the present Constitution and By-Laws of the C.M.A. to allow large district components of county societies to become direct component parts of the C.M.A.; now, therefore, be it

Resolved: That the California Medical Association initiate changes in its Constitution and By-Laws which will permit any established district of a county society to withdraw from that county society and become a direct component part of the California Medical Association; and be it further

Resolved: That the California Medical Association amend its Constitution and By-Laws as follows:

A. ARTICLE I, Section 4—Definition of Component Societies

Component societies include all county medical societies (which may cover one or more counties) or any established component district of at least 300 members of a county society which has exercised option to withdraw from that county society and set up a separate component society, heretofore or hereafter, chartered by this Association.

B. ARTICLE I, SECTION 5—Component Society Charters

Charters to component societies may be granted and revoked as hereinafter prescribed, subject to the limitation that only one charter may be outstanding at any one time in any county except where an established component district of at least 300 members of a county society has elected to be a separate component society.

C. ARTICLE III, SECTION 7(a)—Issuance and Revocation of Charters

The House of Delegates shall issue charters to medical societies of any county, any component society of at least 300 members which has exercised its option to become autonomous or to any group of counties deemed eligible which have made proper application therefor.

CONSTITUTIONAL AMENDMENT No. 7

Author: Ian Macdonald.

Representing: Los Angeles County.

Resolved: That Article III, Part A, Section 3 of the Constitution of the California Medical Association shall be amended to read as follows:

"Section 3—Alternate Delegates. Alternate delegates shall be elected as specified in the By-Laws in

the same manner as delegates are elected; one alternate delegate shall be elected for each two delegates of a component society, and alternate delegates shall be seated in place of any delegate absent, or disqualified for failure to attend meetings, or other cause."

BY-LAW AMENDMENTS

A total of 15 amendments to the By-Laws was offered to the 1961 House of Delegates. By-Law amendments may be acted upon after lying on the table for 24 hours, hence all these were eligible for vote at the second meeting of the House.

However, in several instances the Reference Committee proposed, and the House agreed, that certain By-Law amendments be deferred from vote until 1962. This recommendation was made in some instances where a proposed amendment to the By-Laws was correlated with an amendment to the Constitution which was not eligible for vote until 1962.

The Reference Committee also suggested that a special committee be established, to review all such deferred amendments. This committee, which has been established by the Council, will review all amendments to the Constitution and the By-Laws which relate to the structure of the Association. Where a By-Law amendment has been referred to this special committee, this referral is noted at the foot of the amendment.

Shown below are all amendments to the By-Laws introduced this year, each indicating the action taken by the House.

BY-LAW AMENDMENT No. 1

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Chapter II, Section 3(b) of the By-Laws of the California Medical Association shall be amended by inserting after the second sentence of said Section 3(b) a new sentence to read as follows:

"A physician and surgeon licensed by the State Board of Osteopathic Examiners on or before September 30, 1962, who holds a degree of Doctor of Medicine issued to him by the College of Osteopathic Physicians and Surgeons (or its successor), and whose license to practice medicine and surgery is unrevoked and unsuspended, is eligible for election to active membership in a component society. However, in the event that a charter is outstanding to a state-wide component society, none of such persons shall be permitted to join any component society

other than the state-wide component society, without the express consent of such state-wide society."

ACTION: *Deferred for action until 1962 in conjunction with Constitutional Amendments No. 1 and No. 2.*

BY-LAW AMENDMENT No. 2

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Chapter III, Section 1, Subsection (2) (a) of the By-Laws be amended by the addition of the words shown in *italics*, so that the section shall read:

"(a) There is hereby created in each component society having more than 200 active members, a Judicial Council consisting of not less than five active members of the society. Appointments to the Judicial Council shall be made by the governing board of each such component society, and determination of the number of members of the Council, within the limits herein specified, shall be made by the governing board. Terms of office of the Judicial Council in each such component society shall be three years, except that upon the initial appointment the governing board of each component county society shall divide the appointments as nearly as possible into terms of one, two and three years. Each component society having more than 1,000 active members may, in its discretion, divide its Judicial Council into two or more divisions, *provided that each division shall consist of at least five active members of the society*, and each division may separately hear and decide all cases referred to it. If a society has two or more divisions of its Judicial Council, the secretary of the society shall assign charges to one division or the other immediately after receipt of same, on either a rotating or geographical basis."

ACTION: *Adopted by House.*

BY-LAW AMENDMENT No. 3

Author: The Council.

ACTION: *Not adopted by House.*

BY-LAW AMENDMENT No. 4

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Chapter VII, Section 1, Subsection (b) of the By-Laws be amended by adding at the end of that subsection the following numbered committee:

"6. Committee on Dangerous Drugs."

ACTION: *Adopted by House.*

BY-LAW AMENDMENT No. 5

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Chapter IV, Section 1, Subsection (a) of the By-Laws be amended by inserting the words "Preventive Medicine and . . ." before the words "Public Health" so that this scientific section shall become the Section on Preventive Medicine and Public Health.

ACTION: *Adopted by House.*

BY-LAW AMENDMENT No. 6

Author: James MacLaggan.
Representing: San Diego County.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis of one Delegate for each component society plus one Delegate for each 75 active members or major fraction thereof and that an automatic review of the size of the House of Delegates shall be made every six years by the Council of the California Medical Association and that to accomplish this, Chapter V, Section 2. of the By-Laws which now reads:

"Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to one delegate for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; providing, however, that each component society shall be entitled to a minimum of two delegates."

is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate plus one additional delegate for each 75 active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; and that every six years subsequent to 1963 the Council of the California Medical Association shall automatically review the size of the House of Delegates and make appropriate recommendations."

ACTION: *Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 15.*

BY-LAW AMENDMENT No. 7

Author: Willard S. Bross Jr.

ACTION: *Withdrawn by author.*

BY-LAW AMENDMENT No. 8

Author: Marin County delegation.

ACTION: *Not adopted by House.*

BY-LAW AMENDMENT No. 9

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Chapter VII, Section 1, Subsection (c) of the By-Laws be amended by deleting item 3 of the subsection, reading "3. Committee on Industrial Health" and inserting in lieu thereof the following language: "3. Committee on Occupational Health."

ACTION: *Adopted by House.*

BY-LAW AMENDMENT No. 10

Author: Los Angeles delegation.

WHEREAS, all the delegates do not attend the caucus of the district delegation; and

WHEREAS, the alternate delegates are expected to be oriented and prepared to vote on all matters coming before the House of Delegates; and

WHEREAS, the interest of the alternate delegates will be greatly stimulated by being allowed to actively participate in the decisions of the district delegation; and

WHEREAS, such increased interest on the part of the alternate delegates will be advantageous to all physicians in California; now, therefore, be it

Resolved: That the By-Laws of the California Medical Association be amended as follows:*

CHAPTER V—House of Delegates

Section 1—Secretaries of Component Societies to Furnish Lists of Delegates and (Alternates) *Alternate Delegates*. Each component society shall elect the number of delegates and (alternates) *alternate delegates* to which the component society is entitled. At least sixty days prior to the next scheduled session the Secretary of each component society shall forward to the secretary of the Association, on forms provided by the Association, the names and addresses of these delegates and (alternates) *alternate delegates*, and shall certify thereon the term of service of each individual.

Section 2—Representation. Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to one delegate or *alternate delegate* for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of two delegates or *alternate delegates*.

Section 3—Limitations on Seating of Delegates and *Alternate Delegates*. Only duly elected delegates

*Language deleted shown in parentheses; new language shown in italics.

or (alternates) *alternate delegates* may be seated at any session of the House of Delegates, unless the secretary of the Association has been given due notice of substitution at least fifteen (15) days in advance of the session.

Section 4—Disqualification of Delegates or (Alternates) *Alternate Delegates* for Absence From a Session. Any delegate absent without good cause from two or more consecutive meetings of the House of Delegates, and who has failed to give fifteen days' notice to the secretary of the Association of his inability to be present, shall thereupon be disqualified as a delegate and, in addition, ineligible for reelection as a delegate or (alternate) *alternate delegate* for three years immediately succeeding the expiration of his term; except that the Committee on Credentials may excuse absence on presentation of good cause therefor.

Section 5—Notification of Delegates and *Alternate Delegates*. The secretary of each component society promptly shall notify in writing each delegate and alternate *delegate* immediately after his election to such office, and shall expressly direct each delegate's and (alternate's) *alternate delegate's* attendance to the provisions of Section 4 above.

Section 6—Qualifications of Delegates and (Alternates) *Alternate Delegates*. At least three (3) years' active membership in good standing in the component society immediately preceding election shall be required for election as delegate or alternate *delegate*.

Section 10—Duties of Credentials Committee. The secretary of the Association shall supply the Committee on Credentials with the necessary information concerning the membership of the House of Delegates.

The secretary shall give this committee a list of component societies, showing the total membership as of September 1 of the preceding year. This committee shall ask each delegate and alternate *delegate* to present his written credentials, but shall accept the official written list submitted by the secretary of any component society; provided that such written list be sent to the secretary of the Association at least fifteen days before the beginning of the annual session.

The committee shall make a written report to the House of Delegates of the delegates and (alternates) *alternate delegates* entitled to membership therein.

Section 12—Loyalty. The Committee on Credentials shall require each delegate and alternate *delegate* who desires to be seated as a member of the House of Delegates, to subscribe to the oath or affirmation in the form required for officers under Section 3 of Chapter XIII. In the event of refusal

to subscribe to such oath, the Credentials Committee may at its discretion refuse to include such person in its written report to the House of Delegates designating the delegates and (alternates) *alternate delegates* entitled to membership therein. Any person refused a seat by action of the Credentials Committee shall have the right to appeal to the House and by majority vote the House may overrule the Credentials Committee and seat such person as a delegate.

CHAPTER VIII—Election of Officers: Terms

Section 6—Election of District Councilors in Districts Having One Councilor. At least twenty-four hours prior to the second meeting at each annual session of the House of Delegates the delegates and *alternate delegates* from those districts in which councilor vacancies are about to occur shall separately meet, and in each district the delegates and *alternate delegates* shall elect a chairman and a secretary. At such caucus the delegates and *alternate delegates* in each district shall by nomination, secret ballot and majority vote of the delegates and *alternate delegates* present elect a district councilor from such district to serve for the ensuing term. The chairman of the district delegation shall then report at the second meeting of the House of Delegates the results of the election, and when such report is made the member elected shall thereupon assume office as a district councilor. The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent by the delegates and *alternate delegates* from the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each annual session. In the event that at any district caucus no person receives a majority vote for district councilor after repeated ballots, the chairman of the caucus shall report such fact at the second meeting of the House of Delegates and shall also report the names of all nominees submitted to the caucus, whereupon the House of Delegates shall proceed to elect from such nominees the district councilor from such district. *The alternate delegates shall have a vote on all actions taken by the caucus meeting of the district delegation.*

Section 6.5—Election of District Councilors in Districts Having More Than One Councilor. Immediately on the adoption of this section, and in succeeding years at least twenty-four hours prior to the second meeting at each annual session of the House of Delegates, the delegates and *alternate delegates* from those districts in which more than one councilor vacancy exists or is about to occur shall separately meet and in each such district the delegates and *alternate delegates* shall elect a chairman and a secretary. *The alternate delegates shall have*

a vote on all actions taken by the caucus or meeting of the district delegation.

At the first such caucus in each such district, the aggregate number of vacancies existing shall be divided into Offices No. 1, No. 2 et seq. with Offices Nos. 1, 4 and succeeding increments of three carrying an initial term of one year and thereafter terms of three years; with Offices Nos. 2, 5 and succeeding increments of three carrying initial terms of two years and thereafter terms of three years; and with Offices Nos. 3, 6 and succeeding increments of three carrying initial terms of three years and thereafter terms of three years. Where new offices are created under the terms of Article III, Part B, Section 9(a) of the Constitution, each such new office shall be numbered serially with those already existing and shall carry an initial term extending to the same date as has previously been established for offices in the same numerical sequence, thereafter a term of three years.

Nominations shall then be received for each individually numbered office in which a vacancy exists, and in each instance where there is more than one nomination election shall be by secret ballot and majority vote of the delegates *and alternate delegates* present and voting. The chairman of the district delegation shall then report to the House of Delegates the results of the election, and when such report is made, the members elected shall thereupon assume office as district councilors, subject to the provisions of the Constitution and By-Laws.

At the second and succeeding caucuses the delegates *and alternate delegates* in each such district shall by nomination, secret ballot and majority vote of the delegates *and alternate delegates* present and voting, elect district councilors for each individually numbered district councilor office from such district for which a vacancy is about to occur, and the chairman of the district delegation shall report at the second meeting of the House of Delegates the results of the election, and when such report is made, the member or members elected shall assume office as a district councilor or district councilors, subject to the provisions of the Constitution and By-Laws.

The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent of the delegates *and alternate delegates* of the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each Annual Session; except that on the adoption of this section the speaker shall immediately announce a time and place for the immediate caucus of each district that is at the time of said adoption, entitled to more than one district councilor.

In the event there are more than two nominees at any district caucus for any of the individually numbered offices of district councilor in said district and none of such nominees receives a majority of the votes cast on the first ballot, the nominee receiving the smallest number of votes on such ballot shall be eliminated and a second ballot shall be taken on the remaining nominees, such process to continue until one such nominee shall receive a majority of the votes cast.

ACTION: *Referred to special committee for study.*

1 1 1

BY-LAW AMENDMENT No. 11

Author: Alameda-Contra Costa delegation.

WHEREAS, most physicians on retirement, whether Active or Associate members of the California Medical Association, wish to feel they are still a part of the medical community; and

WHEREAS, Associate members do not have the privilege of retired status, but are dropped from membership thus losing valued contacts; now, therefore, be it

Resolved: That Chapter II, Section 4 (a) Retired Members of the By-Laws of the C.M.A. be amended to read: "The Council, on recommendation of any component society may grant retired membership to those active *and associate members* who have, etc."

ACTION: *Adopted by House.*

1 1 1

BY-LAW AMENDMENT No. 12

Author: San Mateo delegation.

ACTION: *Not adopted by House.*

1 1 1

BY-LAW AMENDMENT No. 13

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That Chapter VII, Section 1, Subsection (a) of the By-Laws be amended by adding the name and style of a new subcommittee, as follows:

"5. Committee on Medical Care Insurance and Mediation."

ACTION: *Adopted by House.*

1 1 1

BY-LAW AMENDMENT No. 14

Author: Samuel R. Sherman.
Representing: The Council.

Resolved: That the By-Laws be amended by adding new paragraphs to Chapter XI, Section 1, to read as follows:

"To assist the Editor in the preparation of the journal, an Editorial Board shall be established,

with the Editor as Chairman and with representatives of each of the established special fields of medical practice and with medical or nonmedical consultants in biostatistics as members. The members of the Editorial Board shall be appointed by the Council for terms of five years each, providing that no member shall be eligible to serve more than two consecutive terms, except that a member may, after one year out of such service, be appointed for one additional term.

"Nominations for appointments to the Editorial Board shall be made by the Committee on Scientific Work after consultation with the Editor and with the Chairman of the Scientific Section for the special field of interest where a nomination is required.

"There shall also be established a Policy Committee of the Editorial Board, the members of which shall be the President, the President-Elect, the Speaker and Vice-Speaker of the House of Delegates, the Chairman of the Council, the Secretary and the Editor."

ACTION: *Adopted by House.*

BY-LAW AMENDMENT No. 15

Author: Los Angeles delegation.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis for each component society of one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate, and that to accomplish this, Chapter V, Section 2 of the By-Laws, is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate."

ACTION: *Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 6.*

COUNCIL MEETING MINUTES

468th Meeting

Tentative Draft: Minutes of the 468th Meeting of the Council, Los Angeles, Ambassador Hotel, April 28 to May 2, 1961.

The meeting was called to order by Chairman Sherman in the Colonial Room of the Ambassador Hotel, Los Angeles, on Friday, April 28, 1961, at 10:00 a.m.

Roll Call:

Present were President Foster, President-Elect Bostick, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wheeler, Todd, Quinn, O'Neill, Kirchner, O'Connor, Shaw, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Anderson and Teall. A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Klutch, Tobitt and Drs. Batchelder and Miller of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; county society executives Scheuber of Alameda-Contra Costa, Lingerfelt of Fresno, Field, Dalbec and Baker of Los Angeles, Bannister of Orange, Doeltermann of Sacramento, Nute of San Diego, Neick of San Francisco, Wood of San Mateo; Dr. Malvan of Santa Clara and Brown of Sonoma; Dr. Malcolm Merrill, State Director of Public Health;

Mrs. Eunice Evans of the State Department of Social Welfare, Drs. J. G. Middleton, Donald Harrington and others.

1. *Budget for 1961-1962 Fiscal Year:*

A proposed budget for the 1961-1962 fiscal year was presented by the Finance Committee, and, after considerable discussion on motion duly made and seconded, was approved for presentation to the House of Delegates. The budget would set the dues of active members for 1962 at \$75.

2. *Membership:*

(a) A report of membership as of April 25 was received and ordered filed.

(b) On motion duly made and seconded, 1,294 delinquent members whose dues have been received were voted reinstatement.

(c) On motion duly made and seconded in each instance, 35 applicants were voted Associate Membership. These were: James R. Lynch, Carl Lutt, Gertrude Mitchell, Alameda-Contra Costa County; George David Amromin, Howard Strong Barrows, Fred Arthur Bryan, Cirino Finocchiaro, Marie Anne Kioebge, Anton Martin Kovacevich, Herman V. Platt, Los Angeles County; Jeanne Blumhagen, Rex V. Blumhagen, Madera County; Herman Gross, Marin County; Carl Mahlmann, Riverside County;

Mark Gerstle, Sacramento County; Francis Lester Crowley, San Bernardino County; Everett J. Carmody, Richard M. Escajeda, San Diego County; William Bierman, Frank W. Blaisdell, Julius H. Comroe, Jr., Thomas O. Evans, Gerald N. Needleman, Moyra Tsu-Yu Siu, San Francisco County; Alfred J. Rucci, San Luis Obispo County; James Morgan Bodie, F. Deborah Johnson, San Mateo County; Charles A. Campbell, Frederic Louis Eldridge, Robert Arthur Evans, Reinhold Abram Sundeen, Ray R. Taylor, Jr., Santa Clara County; Lloyd S. Bambauer, Warren S. McClatchey, James T. Shelton, Tulare County.

(d) On motion duly made and seconded in each instance, four members were voted Retired Membership. These were: Louise Auerbach Mand, Los Angeles County; George Kinney Dunklee, San Luis Obispo County; Ernest W. Cleary, San Mateo County; Joseph I. Porter, Solano County.

(e) On motion duly made and seconded in each instance, reduction of dues was voted for 24 members because of illness or postgraduate study.

3. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 467th Council meeting, held March 18, 1961, were approved as amended.

4. *Supplemental Report of the Council:*

The Council at this point discussed several items which might be included in the Council's supplemental report to the House of Delegates. Among these were:

(a) A resolution to strengthen the effectiveness of the Guiding Principles for Physician-Hospital Relations. Approved for introduction into the House of Delegates.

(b) Agreed that Mr. Hassard should include in his report the filing of an application with the State Industrial Accident Commission for a revision of medical and surgical fees, as approved by the Council.

(c) Approved for introduction a By-Law amendment to specify the length and limits of appointments to the Editorial Board of CALIFORNIA MEDICINE.

(d) Approved a list of commission and committee nominations presented by the Committee on Committees. This included approval of the appointment of the President of the Conference of Local Health Officers as a member of the Committee on State Medical Services.

(e) Approved the naming of the members of the Committee for Emergency Action, together with the immediate Past President, as a liaison committee to the California Farm Bureau Federation.

(f) Reaffirmed the nomination of Mr. Arnold Callan as a member of the Board of Trustees of California Physicians' Service.

(g) Approved the continued service of the Council Chairman as a member of the Medical Care Advisory Board to the State Department of Social Welfare.

(h) Approved introduction of a resolution into the House of Delegates and for referral to the A.M.A. on the subject of stipends for interns and residents.

5. *Finance Committee:*

The Council acted on several items brought before it by the Finance Committee. These were:

(a) Approved the Association's guaranteeing a bank loan to be made by the Joint Committee for the Care of the Aged, rather than making a direct loan to the committee.

(b) Approved a resolution, stated below, relative to the proposal that postgraduate funds be allocated to the teaching of professors in teaching techniques. The resolution is as follows:

WHEREAS, excellence in teaching techniques is most essential in imparting medical knowledge; and

WHEREAS, such techniques can be improved in many medical school curricula; and

WHEREAS, the C.M.A. donates considerable funds to medical schools each year; now, therefore, be it

Resolved: That the Council recognizes the importance of teaching training and suggests that this is an appropriate area for expenditures of its donated funds; and be it further

Resolved: That the Council request the medical school administrations to incorporate formal educational teaching technique courses in their programs.

With adoption of this resolution, the Council agreed not to augment the budget for postgraduate activities to include an item for technique teaching purposes.

(c) Approved the addition of \$655 to the budget for the Committee on Blood Banks in order to continue the committee with a membership of 12, with a limitation of one meeting for one day during the year.

Recess:

At this point the Council was declared in recess until 7:30 a.m., Saturday, April 29, 1961.

Reconvention:

The Council was reconvened in the Frenchette Room of the hotel on Saturday, April 29, 1961, at 7:30 a.m.

6. *Report of the President-Elect:*

Dr. Bostick discussed a public relations meeting sponsored by the American Medical Association.

Dr. Teall reported on a meeting held the previous evening with a selected group of consultants on editorial policy for a discussion of content, personnel and planning for the Speakers' Bureau.

The Council was then recessed and reconvened in the Frenchette Room on Sunday, April 30, 1961, at 7:30 a.m.

7. *Commission on Medical Services:*

Dr. Harrington discussed the projects to be carried on by the Commission on Medical Services in the coming year and replied to questions put by members of the Council. He stressed the fact that a study of the "usual fee indemnity concept" should be differentiated from the "usual fee for service concept." The latter is the "Riverside Plan."

8. *Subcommittee on Infant Mortality:*

Dr. J. G. Middleton discussed the proposed studies of the subcommittee and it was regularly moved, seconded and voted to approve these studies as a new venture in the field of maternal and child care, with the understanding that no additional funds would be asked and that the information secured be used for the education of hospital staffs and allied groups.

9. *Thanks to President Foster:*

On motion duly made and seconded, it was voted to prepare a message to Dr. and Mrs. Paul D. Foster thanking them for their devotion to duty at great personal expense of funds and time during Dr. Foster's term as President.

10. *Committee on Legislation:*

Dr. Dan O. Kilroy gave a progress report on various items of legislation which have been under consideration during the present legislative session.

11. *Liaison Committee to California Hospital Association:*

A revised statement covering the starting of intravenous injections by registered nurses, as approved by the Liaison Committee to the California Hospital Association and its counterpart committee in the C.H.A., was presented and, on motion duly made and seconded, voted approval.

12. *Commission on Community Health Services:*

Dr. MacLaggan suggested a health education program as a continuing function of this commission, to be based on a series of replies in newspapers for specific health questions. He presented a series of articles which could form a basis for this program. With the names of authors deleted, these articles

were moved, seconded and voted approval, and the commission was authorized to continue study and development of such a project.

13. *Commission on Public Agencies:*

Dr. Wheeler presented the minutes of the latest meeting of the Commission on Public Agencies. Included was a discussion of the requests of county hospitals for assistance from the State Department of Public Health on the management of some county programs. On motion duly made and seconded, it was voted to approve the recommendation in the commission report that county hospitals be made to feel free to consult with their respective county medical societies in solving such problems.

The Council recessed at this point until 7:30 a.m., Monday, May 1, 1961.

14. *Committee on Blood Banks:*

Dr. James Moore, chairman of the Committee on Blood Banks, reported that all 12 blood banks approved by the Association had complied with the information requirements of the committee and asked that certificates of compliance be issued to each. On motion duly made and seconded, it was voted that such certificates be issued.

15. *State Department of Social Welfare:*

Mrs. Eunice Evans, deputy administrator, reported that the Department of Social Welfare was looking into the possibility of contracting with California Physicians' Service for the prepayment of outpatient services under the Kerr-Mills program.

At this point the meeting was recessed until 7:30 a.m., Tuesday, May 2, 1961.

16. *State Department of Public Health:*

Dr. Malcolm Merrill, State Director of Public Health, reported that a national marked increase in the incidence of infectious hepatitis has been traced in two areas to the eating of infected shellfish. He also reported that about half as many cases of poliomyelitis have been reported this year as in 1960 and that for one week no new cases had been reported.

17. *Audio-Digest Foundation:*

Dr. Donald D. Lum and Messrs. Claron Oakley and K. L. Hamman gave detailed reports on the progress, editorial problems and finances of Audio-Digest Foundation. It was pointed out that Audio-Digest would have \$12,500 available to contribute to medical education this year and, on motion duly made and seconded, it was voted to recommend to the Board of Trustees that one-half of this sum be contributed to the American Medical Education Foundation and one-half retained for further distribution. It was also moved, seconded and voted

that the ad hoc committee on continuing education be asked to suggest the most effective use of funds raised by Audio-Digest.

On motion duly made and seconded, the Council elected a slate of Trustees for Audio-Digest Foundation, as follows: The President and the President-Elect of the C.M.A.; Drs. Gordon Beckner, Thomas H. Brem, William D. Evans, Ivan C. Heron, Donald D. Lum, Robert L. Marsh and John Pender and Messrs. K. L. Hamman and Claron L. Oakley.

18. *Blood Fractions:*

Dr. Jay J. Palmer of Pomona reported that the American National Red Cross had expressed its willingness to send whole blood to commercial laboratories for processing into fractions which blood banks might then draw under their own labels. To accomplish this he suggested that a representative of the Red Cross be added to the Committee on Blood Banks. When it was pointed out that this committee is already at its maximum allowable size, it was moved, seconded and voted to refer to the Committee for Emergency Action (1) the question of a new appointment to the committee and (2) the naming of a chairman of the committee.

19. *Committee on Legislation:*

Dr. Dan O. Kilroy presented to the Council several bills now before the State Legislature on which he sought instructions. On motion duly made and seconded in each instance, it was voted that the Committee on Legislation should voice opposition to (1) a bill to prohibit a physician serving on the staff of a district hospital from occupying a seat on the board of the hospital; (2) a bill to create a commission to hold hearings directed at the control of the use of animals in research studies; and (3) a proposal to permit formation of corporations among professional people for tax purposes.

20. *Veterans Home-Town Care Program:*

Dr. John Rumsey reported that the program to provide home-town medical care for service-connected disabilities for veterans was due for annual renewal and asked instructions. On motion duly made and seconded, it was voted that in his negotiations with the Veterans Administration, Dr. Rumsey should urge that this program be continued in its present state, with California Physicians' Service as the intermediary.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 9:15 a.m., Tuesday, May 2, 1961.

SAMUEL R. SHERMAN, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

469th Meeting

Tentative Draft: Minutes of the 469th Meeting of the Council, Los Angeles, Ambassador Hotel, May 3, 1961.

The meeting was called to order by Chairman Sherman in the Frenchette Room of the Ambassador Hotel, Los Angeles, on Wednesday, May 3, 1961, at 7:30 a.m.

Introduction of New Councilors:

The chairman introduced to the Council two newly elected members, Drs. Llewellyn E. Wilson of the Second Councilor District and Franklin F. Ham of the Third Councilor District. Dr. William Kaiser, elected to a new office as Councilor of the Eighth District, was introduced in absentia.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Anderson and Teall. Absent for cause, Councilor Kaiser.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Whelan, Marvin and Klutch of C.M.A. staff; Messrs. Hassard and Huber of legal counsel, and others.

1. *Election of Council Officers:*

On nominations duly made and seconded, Dr. Samuel R. Sherman was elected chairman and Dr. Ralph C. Teall, vice-chairman of the Council.

2. *Administrative Appointments:*

On nominations duly made and seconded, the following appointments were made by vote of the Council:

Secretary.....Matthew N. Hosmer, M.D.
Editor.....Dwight L. Wilbur, M.D.
Executive Secretary.....John Hunton
Legal Counsel.....Peart, Baraty & Hassard

3. *Committee Appointments:*

On nominations duly presented by the Committee on Committees and seconded, the following committee members were appointed, all for one-year terms except where otherwise noted:

(a) *Finance Committee:* Drs. Ralph C. Teall, chairman; Ivan C. Heron, Bert L. Davis, John F. Murray, J. Norman O'Neill.

(b) *C.P.S. Board of Trustees:* Drs. Wilbur G. Rogers, Burt L. Davis, Carl E. Anderson.

(c) *Advertising Committee*: Drs. Allen T. Hinman, Chairman; Eugene S. Hopp, Jane Schaefer, Philip Westdahl; Ralph Weilerstein, consultant.

(d) *Advisory Committee to Woman's Auxiliary*: Drs. Roberta Fenlon and Malcolm C. Todd, together with President, President-Elect and Secretary of the Association.

(e) *Bureau of Research and Planning*: Gerald W. Shaw (1963), chairman; Lyle G. Craig, James R. Powell and T. Eric Reynolds (1962); Werner F. Hoyt and Franklin F. Ham (1963); Francis J. Cox, Burt L. Davis, Arlo A. Morrison (1964); James R. Powell named as secretary.

(f) *Liaison Committee to California Physicians' Service*: Donald D. Lum, chairman; Clarence H. Albaugh, Carl E. Anderson, Donald M. Campbell, Donald C. Harrington, Paul I. Hoagland, Edward L. Liston, Robert J. McNeil and George K. Wever.

(g) *Liaison Committee to California Hospital Association*: James C. MacLaggan, chairman; Bert L. Halter, E. E. Wadsworth, Jr. Recommended that this committee appoint three subcommittees, members to be approved by Committee on Committees.

(h) *Benevolence Fund Operating Committee*: Ford P. Cady, chairman; Clyde L. Boice, Alexander Fraser, Elizabeth Mason-Hohl, George C. Wolf.

(i) *Joint Council to Improve Health Care of the Aged*: James C. MacLaggan.

(j) *Pacific Magnetic Tape Equipment Co.*: William D. Evans, Donald D. Lum, Robert L. Marsh.

(k) *Commission for Accreditation of Nursing Homes and Related Facilities*: Pierre J. Salmon (1963) and Charles E. Schoff, Jr. (1964).

(l) *Committee on Committees*: Omer W. Wheeler, chairman; Carl E. Anderson, Warren L. Bostick, James C. Doyle, Albert G. Miller, J. Norman O'Neill, Wilbur G. Rogers, Samuel R. Sherman, Malcolm C. Todd.

(m) *Liaison Committee to State Bar*: Francis E. West, chairman; Leo J. Adelstein, Donald A. Charnock, Carl Goetsch, August J. Haschka.

(n) *Advisory Committee to California Medical Assistants' Association*: Leon O. Desimone (1962), Sanford E. Feldman (1963) and Steward H. Smith (1964).

4. *California Physicians' Service*:

On motion duly made and seconded, it was voted to authorize California Physicians' Service to negotiate with the State Department of Social Welfare on matters relating to the Old Age Assistance Program under present federal and state laws.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 3:45 a.m.

470th Meeting

Tentative Draft: Minutes of the 470th Meeting of the Council, Hilton Inn, San Francisco Airport, May 27, 1961.

The meeting was called to order by Chairman Sherman at 10:00 a.m. on Saturday, May 27, 1961, in the Hilton Inn, San Francisco International Airport.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Anderson and Teall. Absent for cause, Editor Wilbur and Councilor Kaiser. A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Collins, Marvin, Whelan, Klutch, Tobitt and Bowman and Doctors Batchelder and Miller of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Eugene Salisbury of the Public Health League of California; county society executives Geisert of Kern, Field, Dalbec and Baker of Los Angeles, Bannister of Orange, Brayer of Riverside, Donmyer of San Bernardino, Neick of San Francisco, Wood of San Mateo, Funk of Solano, Brown of Sonoma, Bailey of Tulare and Rideout of Butte-Glenn; Messrs. Paolini, Heller, Wahlberg and Burke of California Physicians' Service; Doctor Malcolm Merrill, State Director of Public Health, and Mrs. Eunice Evans, deputy director, and Doctor John A. Berg, Jr., ophthalmologist, of the State Department of Social Welfare.

1. *Membership*:

(a) A report of membership as of May 24, 1961, was presented and ordered filed.

(b) On motion duly made and seconded, 1,169 delinquent members who have been reported since the last previous meeting were voted reinstatement.

(c) On motion duly made and seconded in each instance, 17 applicants were voted Associate Membership. These were: Nemat O. Borhani, Charles H. Peckham, Karl Violin, Alameda-Contra Costa County; Daniel W. Calvin, Mary Fay Gaskins, Anthony John Grassi, R. Alvin Gravelle, Paul Vollrad Gustafson, Kent Gardner Latham, Los Angeles County; Donald B. Dean, Marin County; Carl P. Jensen, Jean Taylor, Mendocino-Lake County; Martin Debenham, Hideo Itabashi, Byron C. Pevehouse, San Francisco County; Robert C. Martin, San Joaquin County; W. G. Shaw, Ventura County.

(d) On motion duly made and seconded in each instance, two members were voted Retired Member-

ship. These were: A. S. Abdun-Nur, Los Angeles County; Ruth A. Nethercut, San Francisco County.

(e) On motion duly made and seconded in each instance, six members were voted a reduction of dues because of illness or postgraduate study.

2. *Report of the President:*

President Bostick discussed the conditions and business confronting the Association at this time, referred to the challenge ahead, the opportunity to meet this challenge and the need for concerted action by all members of the Association.

3. *Report of the President-Elect:*

President-Elect Wheeler expressed his thanks to the members of the Council and to the staff for assistance already given and promised him and pledged to do his utmost to carry out the wishes and policies of the Association during his term of office.

4. *Committee for Emergency Action:*

(a) Dr. Bostick discussed Resolution No. 9 of the 1961 House of Delegates and suggested that a committee be appointed to study the problems involved in studying the quality of medical care for both inpatients and outpatients. On motion duly made and seconded, it was voted to refer this resolution to the Bureau of Research and Planning, with instructions to report back to the Council within three months.

(b) Dr. Bostick also reviewed the recommendation of Reference Committee No. 4 of the 1961 House of Delegates, to the effect that a special ad hoc committee be formed to review several proposed amendments to the Constitution and By-Laws, including proposals to reduce the size of the House of Delegates and to provide for the earlier introduction of resolutions and earlier availability of reference committee reports. In addition, such committee would also review the staff structure of the Association. On motion duly made and seconded, it was voted to appoint an ad hoc committee for these purposes and to request the Committee on Committees to suggest the membership of this committee to the Council.

(c) Dr. Bostick reported that a Liaison Committee to the California Farm Bureau Federation had been named and that this organization had named a similar committee. He also read a resolution adopted by the San Joaquin County Medical Society relative to the provision of medical care for migrant agricultural workers. The Council expressed its support of this resolution and referred it to the Liaison Committee already formed.

(d) Doctor Bostick also discussed the need of discussing with officials of the State of California the

desirable level of professional fees to be paid for services provided under several state assistance programs. Dr. Teall stated that the county societies had not authorized the use of median fee levels developed within each county for this purpose and that the Association had pledged itself not to make use of such figures without the express authorization of the county societies to do so. Following lengthy discussion, during which one suggested motion was tabled and subsequently lifted from the table, the following resolution was regularly moved, seconded and adopted:

Resolved: That the C.M.A. Council authorize its Committee for Emergency Action to represent the Association in discussing with representatives of State Agencies supporting evidence that the present rates paid for professional services are below the going rates for these services.

The sources of this supporting evidence shall be as follows:

1. Information already authorized for release by the C.M.A. for this use by the various county societies.

2. Regional information as requested by the House of Delegates.

3. Appropriate statistical data and information as derived therefrom.

and be it further

Resolved: That the Council make every effort to secure from the county societies more current data of this type, e.g., such as developed in the preparation of the 1960 Relative Value Studies and the release of such data to the Association for its use in discussions with state agencies.

5. *Finance Committee:*

Chairman Teall of the Finance Committee presented a report of current bank balances and other financial data, which was ordered filed.

6. *Speakers' Bureau:*

Co-Chairman Teall of the Speakers' Bureau reported that all but one of 15 members invited to participate as speakers for the Speakers' Bureau had accepted and that all would meet on June 8 for a discussion of methods to be used. He requested that Mr. Jerry Pettis be retained at the outset for the purposes of securing invitations from statewide organizations and of learning the nature of the presentation desired by them. Speakers would, he said, prepare the bulk of their own material, with assistance from the staff. County societies would be provided with suggested speeches, press releases, background material and other information for the use of their members in addressing local organiza-

tions. He also presented a suggested budget of \$5,000 as an initial estimate of cost, exclusive of retained personnel. On motion duly made and seconded, it was voted to refer this proposal to the Finance Committee for study and recommendations.

7. *State Department of Public Health:*

Dr. Malcolm Merrill, State Director of Public Health, reported that a national safety conference would be held on the subjects of traffic accidents and alcohol and the relationship of the two. Traffic officials, judges, physicians and others will participate. He also reported that surveillance programs are being initiated at this time of year on viral diseases of the central nervous system and hepatitis in its various forms. A meeting of local health officers is also planned, he stated, on a review of tuberculosis.

8. *State Department of Social Welfare:*

Mrs. Eunice Evans, deputy director of the State Department of Social Welfare, reported that an extension of the drug formulary will be made effective, to include such items as drugs used in dermatology, cough medicines, drugs for epilepsy and, if possible, special drugs for selected individual cases. Drug producers, she said, have voluntarily offered price reductions and one producer has already rebated \$13,000, or about 20 per cent of the cost of its items purchased for the program. She also stated that California will have one official representative at a coming White House Conference on problems of the aging.

Mrs. Evans introduced Dr. John A. Berg, Jr., state ophthalmologist, who reported on several hundred cataract extractions under the state's blind aid program. About 87 to 88 per cent of these cases were rehabilitated, he stated, and removed from the blind aid rolls.

9. *California Physicians' Service:*

Dr. John Morrison reported that one member of the Board of Trustees of C.P.S. had found it impossible to serve and had withdrawn. The Board has appointed Dr. Milo Youel to serve until the next annual session, succeeding Dr. Orville Cole.

Dr. Morrison also reported that Dr. T. Eric Reynolds had agreed to serve, on a part-time salaried basis, as President of California Physicians' Service, his duties to be of a representative rather than administrative nature.

10. *Public Relations:*

Dr. Malcolm Watts, chairman of the Committee on Public Relations, stated the cooperation which the committee will extend to the Speakers' Bureau and reported on increased activity in county society-sponsored programs. He stated that the television

programs had been well received and asked authority to produce a second series of 26 presentations. On motion duly made and seconded, this authority was voted.

Dr. Watts also asked that the program of the committee be reviewed before the end of each Association year, in advance of the annual session.

11. *Committee on Committees:*

(a) Chairman Wheeler of the Committee on Committees recommended that Dr. Wayne Pollock be named chairman and Dr. Charles Hudson a member of the Commission on Public Agencies, to succeed Dr. Wheeler, who is no longer eligible to serve. On motion duly made and seconded, these recommendations were approved.

(b) The committee also recommended that Dr. Wheeler be continued as chairman of the Committee on State Medical Services and that Dr. Malcolm Todd be named vice-chairman. On motion duly made and seconded, it was approved.

12. *Commission on Medical Services:*

Chairman Murray of the subcommittee on county-sponsored programs of the Commission on Medical Services reported that the counties sponsoring medical care plans would meet in Bakersfield in mid-June.

Murray Klutch reported on a recent Portland meeting of the Group Health Association of America.

13. *Commission on Public Agencies:*

Report was made that the present Veterans' Administration program for home-town care for service-connected disabilities would end, under the present contract, on June 30. The Veterans' Administration wishes to eliminate California Physicians' Service as an intermediary in this contract and is now proposing that the present contract be extended temporarily pending final decision on this point.

14. *Legal Department:*

Mr. Hassard reported that the American Medical Association is requesting the appearance of a California representative before a Congress committee reviewing the King Bill and is also asking that letters be sent to members of Congress. On motion duly made and seconded, it was voted that President Bostick should represent the Association at this hearing.

15. *Resolution of 1961 House of Delegates:*

The Council reviewed all resolutions adopted by the 1961 House of Delegates and assigned them to appropriate commissions, to the A.M.A. delegation, to staff or others.

16. *Continuing Health Insurance:*

Councilor Anderson discussed a proposal he had made to adjust the dues or premiums for health insurance coverage so as to build up reserves for the purchase of additional coverage when the person covered was disabled or retired. He asked the Council to recommend this proposal and refer it to the Board of Trustees of the California Physicians' Service for study. On motion duly made and seconded, it was voted to refer this proposal to the C.P.S. Board of Trustees.

17. *Travel Proposal:*

A proposal from a travel agency was presented, including the proposal that present federal regula-

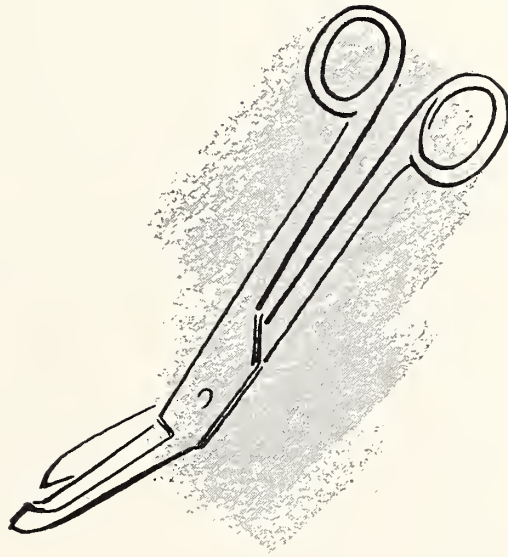
tions encourage the charter of jet airplanes for large groups and that such a charter can provide first-class trips at extremely low rates. No action was taken by the Council.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 4:20 p.m., adjournment being taken in honor of the memory of Louis A. Orr, M.D., past president of the American Medical Association.

SAMUEL R. SHERMAN, M.D., *Chairman*

MATTHEW N. HOSMER, M.D., *Secretary*



In Memoriam

AARONSON, MYER WILLIAM. Died in Brentwood, May 21, 1961, aged 79, of heart disease. Graduate of the University of Maryland School of Medicine and College of Physicians and Surgeons, 1914. Licensed in California in 1942. Doctor Aaronson was a member of the Los Angeles County Medical Association.



BRUNIE, YOLANDA SUTHERLAND. Died in Pasadena, June 3, 1961, aged 56. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1928. Licensed in California in 1928. Doctor Brunie was a member of the Los Angeles County Medical Association.



CHANNEL, WILLIAM LEON. Died in Oakland, May 12, 1961, aged 79, of arteriosclerotic heart disease. Graduate of Cooper Medical College, San Francisco, 1905. Licensed in California in 1906. Doctor Channel was a retired member of the Alameda-Contra Costa Medical Association and the California Medical Association, and an associate member of the American Medical Association.



COMSTOCK, BELLE WOOD. Died May 22, 1951, aged 80. Graduate of the University of Southern California School of Medicine, Los Angeles, 1909. Licensed in 1910. Doctor Comstock was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



COUMBE, JAY ETZELL. Died in San Marino, May 25, 1961, aged 44, of heart disease. Graduate of University of Southern California School of Medicine, Los Angeles, 1943. Licensed in California in 1943. Doctor Coumbe was a member of the Los Angeles County Medical Association.



HALVERSON, WILTON LEE. Died in an airplane over Oakland, June 8, 1961, aged 64. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1929. Licensed in California in 1929. Doctor Halverson was a member of the Los Angeles County Medical Association.



HARDY, SAMUEL ISAAC. Died in Oakland, September 29, 1960, aged 45, of carcinoma of the lungs and metastasis to the central nervous system. Graduate of the University of Oklahoma School of Medicine, Oklahoma City, 1944. Licensed in California in 1954. Doctor Hardy was a member of the Humboldt-Del Norte County Medical Society.



KINGMAN, CECIL A. Died in Santa Ana, May 15, 1961, aged 64. Graduate of the University of Michigan Medical School, Ann Arbor, 1920. Licensed in California in 1945. Doctor Kingman was a member of the Orange County Medical Association.

LIPSON, ISADORE MAX. Died May 22, 1961, aged 69. Graduate of the Chicago College of Medicine and Surgery, Illinois, 1914. Licensed in California in 1915. Doctor Lipson was a member of the Tulare County Medical Society.



PARKER, JAMES WILLIAM. Died April 30, 1961, aged 39. Graduate of the University of Oklahoma School of Medicine, Oklahoma City, 1946. Licensed in California in 1959. Doctor Parker was a member of the Los Angeles County Medical Association.



PARMELEE, ARTHUR H. Died in Los Angeles, June 5, 1961, aged 77. Graduate of Rush Medical College, Chicago, Illinois, 1911. Licensed in California in 1947. Doctor Parmelee was a member of the Los Angeles County Medical Association.



RETHWILM, LORRULI ANNA. Died in San Francisco, June 4, 1961, aged 72. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1917. Licensed in California in 1917. Doctor Rethwilm was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.



RUBINSTEIN, MAX R. Died in Los Angeles, May 23, 1961, aged 60. Graduate of George Washington University School of Medicine, Washington, D. C., 1924. Licensed in California in 1942. Doctor Rubinstein was a member of the Los Angeles County Medical Association.



SCHOMAKER, THEODORE PAUL. Died December 29, 1960, aged 57, of a coronary occlusion. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1929. Licensed in California in 1929. Doctor Schomaker was a member of the San Francisco Medical Society.



SHEFFNER, SIDNEY ALEXANDER. Died May 21, 1961, aged 55, of alveolar proteinosis. Graduate of Tufts University School of Medicine, Boston, Massachusetts, 1930. Licensed in California in 1937. Doctor Sheffner was a member of the Los Angeles County Medical Association.



TENEN, MAX MARCUS. Died in Downey, May 11, 1961, aged 45. Graduate of the University of Minnesota Medical School, Minneapolis, 1942. Licensed in California in 1945. Doctor Tenen was a member of the Los Angeles County Medical Association.



ZEILER, JOE. Died May 24, 1961, aged 64, of heart disease. Graduate of the College of Physicians and Surgeons, Los Angeles, 1919. Licensed in California in 1919. Doctor Zeiler was a member of the Los Angeles County Medical Association.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

SINCE 1957 the State Health Department has provided financial support for special projects carried on by local health agencies in California.

The objectives of the program are to stimulate, encourage, and provide financial support to local health departments in carrying out demonstration and evaluation activities. It is already clear that the projects aid the development of new patterns of community health.

These projects, now 50 in number, provide a wealth of priceless experience. Among other things, they are demonstrating multiphasic screening for the early detection of chronic illness, rehabilitation nursing for the disabled and elderly, new ways of nutrition education, how to improve food management in nursing homes, better institutional care of chronically ill and aged, care of unwed mothers, ways to determine the cost of medical care for aged persons on public assistance, study of prematurity, cytologic screening for cancer, and a child health survey. These projects are financed annually by \$330,000 in federal funds.

One of the more successful demonstration projects—one which has been accepted as a community health program locally financed—is the Modoc County Home Nursing Service. The project, aimed at lessening the burden on hospital facilities by bringing nursing care into homes, was the first organized attempt in California to provide home nursing programs in a rural area.

An interest in home nursing services was expressed by Modoc County residents for many years, and when the funds for local projects became available, investigation proved this interest still existed. The project was developed with three objectives in mind: (1) The feasibility of a home nursing service in a rural county; (2) the cost of a home nursing service in a rural agricultural county; and (3) the utilization of resident nurses in a rural community to do part-time professional nursing in the home.

A community advisory committee and a physicians' advisory committee composed of the six physicians practicing in the county, assisted in policy making and planning. As a result of their work, methods of referrals, fee schedules and other procedures were developed. The home nursing service was made available to everyone on the basis of fees according to ability to pay. Nursing care in the home was under the direction of a physician,

with a social evaluation of the home and the family's attitude and ability to participate in the treatment program being considered by the physician and the nurse.

Registered nurses living in the community were found who were willing to work on a part-time basis for an hourly fee. These nurses were given intensive inservice education to prepare them to adjust their knowledge of nursing to the home situation. This initial phase required the employment of a full-time nursing director.

In the early phases of the program there was some lack of understanding on the part of the physicians as to the functions that could be carried by the nurses in giving care to their patients outside the hospital. As time went on more patients, particularly those with chronic and long-term illnesses, were referred and by early 1960 all physicians had referred patients to the home nursing service for care.

In June 1960 an analysis of fees collected was made. It was found that out of a total of 260 cases, 119 paid the full fee, 93 were paid through the welfare department, and only 46 were unable to pay.

Nurses cared for persons of all ages and with a wide variety of illnesses. Home calls were made to the far extremes of the county, often over rugged mountain roads in all kinds of weather to isolated homes.

Visits were made to homes of the poor as well as the wealthy. However, most of the visits were made to older people living in comfortable but modest homes in the two larger centers of population. Many were elderly women with chronic disorders who had potentials for rehabilitation.

The project funds were exhausted last month. But, convinced of its practicability and value the Modoc County Board of Supervisors in June resolved to assume local support for the project, effective July 1.

Such a service, of course, is hardly an innovation, particularly in California's more populated urban areas where Visiting Nurse Association services have been an integral part of community health programs for many years. Its adaptation to a rural agricultural area is new, however, and provides service in a location where it would be costly and difficult to recruit full-time home nursing care personnel.

CALIFORNIA MEDICAL ASSOCIATION

ANNUAL MEETING

**Fairmont Hotel
SAN FRANCISCO**

April 15-18, 1962

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than November 1, 1961.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 693 Sutter Street, San Francisco 2, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than November 1, 1961. (No exhibit shown in 1961, and no individual who had an exhibit at the 1961 session, will be eligible until 1963.)

Medical Motion Pictures

The Film Symposiums which attracted excellent attendance in 1961 will be continued in 1962.

Authors desiring to show films should send their applications to Motion Picture Division, C.M.A., 693 Sutter Street, San Francisco 2. All authors are urged to be present at the time of showing as there will be time allotted for discussion and questions from the audience after each film.

Deadline: December 1, 1961.

**PLANNING MAKES PERFECT
AN EARLY START HELPS**

SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY Jerome J. Sievers
4835 Van Nuys Boulevard, Sherman Oaks

ANESTHESIOLOGY Grant Fletcher
P. O. Box 569, Manterey

DERMATOLOGY AND SYPHILOLOGY . . . David R. Taylor
1237 R Street, Fresno 21

EAR, NOSE AND THROAT Henry L. Harris
3875 Wilshire Boulevard, Los Angeles 5

EYE Richard A. Westsmith
12 North El Camino Real, San Mateo

GENERAL PRACTICE A. Norton Donaldson
321 West Washington Avenue, Santa Ana

GENERAL SURGERY R. Bruce Henley
400 Twenty-Ninth Street, Oakland 9

INDUSTRIAL MEDICINE AND SURGERY . . Peter L. Hoffman
3533 West Pico Boulevard, Los Angeles 19

INTERNAL MEDICINE Glenn A. Pope
2600 Capital Avenue, Sacramento 16

OBSTETRICS AND GYNECOLOGY . . . Kenneth F. Morgan, Jr.
2010 Wilshire Boulevard, Los Angeles 57

ORTHOPEDICS Albert H. Rodi
2010 Wilshire Boulevard, Los Angeles 57

PATHOLOGY AND BACTERIOLOGY . Carl M. McCandless, Jr.
St. Joseph's Hospital, Buena Vista and Park Hill, San Francisco 17

PEDIATRICS R. Bruce Jessup
2151 Berkeley Way, Berkeley 4

PHYSICAL MEDICINE Karl H. Haase
Wadsworth General Hospital, V. A. Center, Los Angeles 25

**PREVENTIVE MEDICINE AND
PUBLIC HEALTH** Irving D. Litwack
2655 Pine Avenue, Long Beach 6

PSYCHIATRY AND NEUROLOGY . . . { Mark Zeifert
Henry S. Colony
Psychiatry: Mark Zeifert, 1065 S Street, Fresno 21
Neurology: Henry S. Colony, 411 Thirtieth Street, Oakland 9

RADIOLOGY Robert L. Scanlan
2131 West Third Street, Los Angeles 57

UROLOGY August Spitalny
3637 California Street, San Francisco 18



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

Membership

IN STARTING the year 1961-1962, Mrs. Lawrence Custer, president of the Woman's Auxiliary to the California Medical Association, has asked that a different committee chairman give a report for this page each month. This month has been assigned to the Committee on Membership.

Organized in 1929 with a membership of 472 in ten counties, the Auxiliary has grown rapidly through the years. Under the able guidance of Mrs. Floyd Anderson, Membership chairman for 1960-1961, the Auxiliary has achieved a membership of 7,173 in thirty-four counties. The largest county auxiliary is that of Los Angeles, with a membership of 1,707. The smallest is Tehama county's with a membership of 15. There are also 37 members-at-large in unorganized counties.

Whether she is aware of it or not, the physician's wife, through her community contacts, acts as a liaison between the public and the medical profession. It is in this manner that she can make her greatest contribution, for she has an influence that is almost immeasurable.

Membership in the Auxiliary is a privilege and a responsibility. Through her Auxiliary membership, the physician's wife may be kept informed regarding current trends affecting medicine, and what to do about them. She must rely on words for day by day communication. Those words and the manner in which they are spoken carry a grave responsibility. She must always remember that she is

often quoted not as an individual but as a physician's wife.

Membership in an auxiliary provides an opportunity for physicians' wives to work toward a common goal with others who have the same interests. The essentials for a thriving, high-level membership are harmony among members, lively absorbing programs and complete understanding of the policies and purposes of the A.M.A.

Membership is the keystone of organization. To make the structure above it strong takes workers with enthusiasm and conviction—a strong committee, well informed on all phases of auxiliary program and striving to make “every member a part of the membership committee.”

A friendly personal invitation is still the best method for recruiting new members. In one community, two charming Auxiliary members call on each prospective member. Needless to say, almost all join. A special effort should be made to make the recruit feel welcome, introducing her to other members and arranging transportation to meetings if needed.

We recognize we are an Auxiliary; therefore the aims, the challenges and the problems of the Medical Association are ours. I should like to quote from Mrs. Anderson's message in the Auxiliary workbook: “No endeavor is good enough—if it can be made better. We still need every doctor's wife to give the Auxiliary greater strength and influence.”

MRS. HOMER WOLFSEN
*Membership Chairman
Woman's Auxiliary to the
California Medical Association*

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

A world health conference will be held at University of California at Los Angeles next October 6 and 7 with international authorities scheduled to discuss the major health problems facing the world.

The conference will be sponsored by the UCLA Schools of Public Health and Medicine, University of California Extension, College of Medical Evangelists, University of Southern California Medical School, Los Angeles County Medical Association, the Southern California Public Health Association, the Los Angeles Chamber of Commerce, and the American Association for the United Nations Southern California State Council, with the participation of the World Health Organization, Geneva, Switzerland.

Such world health problems as nutrition, environmental health, mental health, communicable and infectious diseases, nursing care and health education in underdeveloped countries will be included in the program. Six internationally known speakers sent by the World Health Organization will highlight the conference. Outstanding speakers from the United States, with some emphasis on the western states, will also appear on the program.

NEVADA

Dr. Elbridge J. Best, formerly of San Francisco, has been appointed health officer part-time for Nevada County. The new health officer had retired in 1954 to the county of his birth and now is not engaged in private practice.

SAN FRANCISCO

The College of Physicians and Surgeons, San Francisco's 65-year-old dental school, and the Presbyterian Medical Center have signed a contract whereby the College of Physicians and Surgeons will build a new dental school as an integrated unit of the Presbyterian Medical Center.

This joint announcement was made by John R. Little, president of the board of trustees of the Medical Center, and Francis J. Herz, D.D.S., president of the board of trustees of the dental college.

The college has obtained through purchase and "lease-loan" approximately 30,000 square feet of property at the northwest corner of Sacramento and Webster streets in the heart of San Francisco.

"The new dental college," Dr. Herz stated, "is being designed for 400 students—100 per class—or almost double the current enrollment."

Mr. Little and Dr. Herz said that the College of Physicians and Surgeons, which has operated exclusively as a school of dentistry since 1923, will become an integral part of the Presbyterian Medical Center but will maintain its own identity, conduct its own operations and be financially independent of the center.

To coordinate the work of the Medical Center and the school of dentistry, one representative of the Medical Center will be elected to the new nine-man board of trustees of the College of Physicians and Surgeons while two representatives of the dental college will become members of the Center's 27-man Board.

* * *

Dr. John J. Sampson of San Francisco was installed as president of the California Heart Association at the recent annual meeting of the organization in Anaheim. Dr. Harney M. Cardua, Jr., of San Diego was elected president-elect. Dr. William Thomas and Mr. Lloyd Graybiel, both of San Francisco, were elected vice-presidents. Dr. Clayton H. Klakeg, president of the Santa Barbara Heart Association, was elected to the board of directors of the state association.

* * *

The gold headed cane, given each year to the senior student of the University of California School of Medicine, San Francisco, who is deemed to have best represented the qualities of a physician, was awarded this year to Edward McCord Neal, who lives in San Bruno. He was selected for the honor by vote of his classmates and members of the faculty. Dr. Neal, who is 30 years of age, married and the father of two children, will stay on at U.C. Medical Center for his internship.

Surl Nielsen of Whittier and Roger Freeman of Los Angeles were runners-up for the award.

Another award, the Borden award of \$500 for encouragement of research, went to Donald Jay Lawrence, also a senior. It was given for his research on metaplasia of keratinous epithelia.

* * *

The National League for Nursing, New York, has announced the appointment of Marion G. Miller of San Francisco as director of nursing programs on the staff of its western office. The new office, in the California Medical Association Building, 693 Sutter Street, San Francisco, opened in March of this year to assist constituent Leagues for Nursing and nursing service and educational agencies of the region in activities to improve nursing in the West. Miss Miller joined the western staff on July 1.

A former member of the NLN national staff, Miss Miller comes to her new post with the League from San Francisco State College where she has been assistant professor in nursing since 1959.

SISKIYOU

Dr. Roy F. Schlappi was named Yreka's man of the year at a banquet of the Yreka Chamber of Commerce in June and was presented with a commemorative plaque. Dr. Schlappi was cited for "charitable work that cannot be itemized."

GENERAL

The California Nurses' Association has scheduled an Institute on Medico-Legal Aspects of Nursing Practice on November 3 and 4 in Santa Monica.

Among the subjects for discussion will be drug administration, legal aspects of communication, special legal relationships, and professional negligence and liability. Representatives from and legal counsel for California Nurses' Association, California Medical Association, California Hospital Association and Insurance Companies will participate in the program. Further information may be obtained from Marian Alford, executive director of the California Nurses Association, 185 Post Street, San Francisco 8.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Clinical Traineeships — Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Dermatology in Clinical Practice. Monday and Tuesday evenings, 7:30 to 10:00 p.m., July 10 and 11. Fee: \$25.00.

Advanced Seminars in Dermatology (for Dermatologists). Wednesday through Sunday, July 12 through 16. University Conference Center, Lake Arrowhead. Thirteen hours. Fee: \$150.00 (includes room and meals).

Infertility. Friday and Saturday, July 14 and 15.[†]

Advanced Seminar on Infertility. Sunday through Wednesday, July 16 through 19. University Conference Center, Lake Arrowhead. Fee: \$137.50 (includes room and meals).

General Pediatrics. Wednesday through Sunday, August 2 through 6. University Conference Center, Lake Arrowhead. Sixteen hours. Fee: \$150.00 (includes room and meals).

Advanced Seminars in Internal Medicine. Sunday through Wednesday, August 6 through 9. University Conference Center, Lake Arrowhead. Fee: \$137.50 (includes room and meals).

Teaching Clinics. September 21 through December 14, Thursday evenings. 24 hours. Fee: \$60.00.

Lower Extremities Prosthetics. Monday through Friday, September 25 through 29. Fee: \$125.00.

For information on courses for physicians or ancillary personnel *contact:* Thomas H. Sternberg, M.D., assistant dean for Continuing Medical Education, U.C.L.A. Medical Center, Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Obstetrics and Gynecology. Thursday through Saturday, September 14 through 16. Twenty-one hours. Fee: \$40.00.

Internal Medicine—A Selective Review. Monday through Friday, September 18 through 22. Thirty-five hours. Fee: \$20.00 per day or \$90.00 per week.

Neuropsychiatry in General Practice. Thursdays, September 28 through November 2. Fee: \$5.00.

A Clinic on Human Disabilities. Friday and Saturday, September 29 and 30. Fourteen hours.*

Evening Lectures in Medicine. Oakland Hospital, Tuesday evenings, October 3 through November 21. Fee: \$35.00.

*Fee to be announced.

†Hours and fees to be announced.

Bone: Clinical Application of Recent Advances. Saturday through Monday, October 7 through 9. Twenty-one hours. Fee: \$50.00.

Urology. Thursday through Saturday, October 12 through 14. Twenty-one hours. Fee: \$50.00.

Problems Due to Infection in Medicine and Surgery. Saturday and Sunday, October 28 and 29. Fourteen hours. Fee: \$25.00.

Problems of Adolescence. Children's Hospital, Saturday, November 4. Seven hours. Fee: \$12.50.

Alcohol and Civilization. Saturday through Monday, November 11 through 13. Twenty-one hours. Fee: \$25.00.

Psychiatry in General Practice. Napa State Hospital, Saturday and Sunday, November 18 and 19. Fourteen hours. Fee: \$25.00.

Surgery of the Hand and Forearm. Friday through Sunday, December 1 through 3. Twenty-one hours. Fee: \$50.00.

External Diseases of the Eye. Thursday through Saturday, December 7 through 9. Twenty-one hours. Fee: \$50.00.

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Use of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

For information on courses for physicians or ancillary personnel *contact:* Department of Continuing Medical Education in Medicine and Health Sciences, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

PRESBYTERIAN MEDICAL CENTER, SAN FRANCISCO

Conference on Strabismus. Wednesday through Friday, July 12 through 14. Limited enrollment. Fee: \$100.00.

Retinal Detachment Course. September 4 through 6. Limited enrollment. Fee: \$100. *Contact:* Secretary, Presbyterian Medical Center Eye Bank, 2018 Webster Street, San Francisco 15.

Contact: Arthur Selzer, M.D., program committee chairman, Presbyterian Medical Center, Clay and Webster Sts., San Francisco 15, WEst 1-8000, Ext. 303 or 414.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Hawaii Course. August 2 through 18. The USC School of Medicine will offer the 4th Postgraduate Refresher Course to be held in Honolulu and on board the S.S. Matsonia. (As a time and money saver, air travel is also possible.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advanced Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Intensive Review of Internal Medicine. Monday through Friday, September 11 through 22, 8:30 a.m. to 12:30 p.m., Los Angeles County Hospital. Fee: \$65.00.

Recent Advances in Medicine. Thursday and Friday, November 9 and 10, Statler Hotel, Los Angeles.*

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

Clinical Traineeships available in clinical departments by arrangement with Postgraduate Division and Postgraduate Chairman of department involved. In addition to those listed other traineeships in other departments can be arranged. Eighty hours minimum. Limited enrollment. Begin when individually arranged.

1. **Anesthesia.** Six months. 250 to 300 hours. Fee: \$350.00.
2. **Internal Medicine.** Two weeks to nine months.
3. **Pulmonary Diseases** (can be arranged).
4. **Traumatology.** One month. 160 hours. Fee: \$125.00.
5. **Urology** (can be arranged).

Alumni Postgraduate Convention. March 13 through 15, 1962, Ambassador Hotel, Los Angeles. *Contact:* Kenneth H. Abbott, M.D.

For information contact: Office of the Dean, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

AUDIO-DIGEST FOUNDATION

A nonprofit subsidiary of California Medical Association, offers a subscription series of hour-long tape recordings condensing highlights of important literature and leading national meetings. Designed to be heard in the automobile, home or office. Six different services are offered—General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, and Anesthesiology. Also, just compiled and released is a Catalog of Classics, offering panel discussions and symposia on specific subjects in all specialties. For information contact Mr. Claron L. Oakley, Editor, 619 So. Westlake Avenue, Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

SUMMER MEETINGS

LOS ANGELES ACADEMY OF GENERAL PRACTICE Medical Seminars for General Practitioners. University Residential Conference Center, Lake Arrowhead, July 8 through 12. *Contact:* Gordon Beckner, M.D., program chairman, 1704 West Manchester, Los Angeles 45.

NEVADA STATE MEDICAL ASSOCIATION 58th Annual Meeting and 11th Annual Conference of the Reno Surgical Society. August 23 through 26. Reno, Nevada. *Contact:* Mr. Nelson B. Neff, Exec. Secretary, Nevada State Medical Association, 506 Humboldt St., Reno.

PACIFIC DERMATOLOGIC ASSOCIATION Annual Meeting. Hotel Utah, Salt Lake City, Utah, August 30 through September 2. *Contact:* Edward J. Ringrose, M.D., secretary-treasurer, 2828 Telegraph Avenue, Berkeley 5.

SEPTEMBER MEETINGS

NATIONAL KIDNEY DISEASE FOUNDATION First Professional Kidney Symposium, Ambassador Hotel, Los Angeles, September 13, 9:00 a.m. to 5:00 p.m. Fee: \$12.50 (includes lectures and lunch). *Contact:* Mrs. Jean Gordon, administrative assistant, 1227½ South La Brea, Los Angeles 19.

LOS ANGELES PEDIATRIC SOCIETY Meeting. The use of Amphetamine Tranquilizers and Psychic Energizers in Pediatrics, September 14, 6:30 p.m. Los Angeles County

Medical Association Building, 1925 Wilshire Boulevard, Los Angeles. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.

ST. JOHN'S HOSPITAL Postgraduate Assembly, September 14 through 16. St. John's Hospital, 1328 22nd St., Santa Monica. *Contact:* John C. Eagan, M.D., director, 1328 22nd St., Santa Monica.

SANTA BARBARA COUNTY HEART ASSOCIATION Sixth Annual Symposium on Cardiovascular Disease, September 16, 9 a.m. to 5 p.m. Santa Barbara Biltmore Hotel. *Contact:* Mrs. Sara Clyde, executive director, 18 La Arcada Court, Santa Barbara.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention, September 17 through 20. Olympic Hotel, Seattle, Wash. *Contact:* R. W. Neill, 1309 7th Ave., Seattle.

SAN FRANCISCO HEART ASSOCIATION 31st Annual Postgraduate Symposium, September 27 through 29, St. Francis Hotel, San Francisco. *Contact:* Gene Taylor, executive director, 259 Geary Street, San Francisco 2.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, September 29 through October 1. Hotel del Coronado, Coronado. *Contact:* Philip L. Pillsbury, M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

OCTOBER MEETINGS

KAISER FOUNDATION HOSPITALS IN NORTHERN CALIFORNIA Fifth Annual Symposium on Immunology and Autoimmune Disease, October 6 and 7, Fairmont Hotel, San Francisco. *Contact:* Martin A. Shearn, M.D., director of medical education, 280 West MacArthur Blvd., Oakland.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION Western Occupational Health Conference, October 6 and 7, Biltmore Hotel, Los Angeles. *Contact:* B. M. Brundage, M.D., Medical Director, Atomics International, P. O. Box 309, Canoga Park, Calif.

LOS ANGELES COUNTY HEART ASSOCIATION Professional Symposium, October 11 and 12, 9 a.m. to 5 p.m., Statler Hilton Hotel, Los Angeles. *Contact:* Manuel Siegel, Program Director, 2405 W. 8th St., Los Angeles 57.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Scientific Assembly, October 15 through 18. Statler Hilton Hotel, Los Angeles. *Contact:* William W. Rogers, Exec. Secretary, 461 Market Street, San Francisco 5.

SOUTHWESTERN MEDICAL ASSOCIATION 43rd Annual Meeting, October 19 through 21. Tropicana Hotel, Las Vegas, Nevada. Registration: \$25 (includes 2 roundtable discussion luncheons). *Contact:* Mott, Reid, and McFall, 310 North Stanton Street, El Paso, Texas.

WEST COAST PSYCHOANALYTIC SOCIETIES Meeting, Beverly Hills, October 21 and 22. *Contact:* Executive Secretary, Los Angeles Institute for Psychoanalysis, 344 North Bedford Drive, Beverly Hills.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, Fullerton, October 22, all day beginning at 8:30 a.m. *Contact:* B. L. Tesman, M.D., St. Jude Hospital, Fullerton.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, INC., October 22 through 27, Statler Hilton, Los Angeles. *Contact:* Mr. John W. Andes, executive secretary, 515 Busse Highway, Park Ridge, Illinois.

CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS Fall Meeting, Woodland, Calif., October 25 and 26. *Contact:* Donald G. Davy, M.D., assistant to chief, Division of Community Health Services, Dept. of Public Health, Berkeley 4.

KERN COUNTY GENERAL HOSPITAL Postgraduate Conference and Alumni Day, October 27. *Contact:* George A. Paulsen, M.D., chairman, Postgraduate Conference Committee, Kern County General Hospital, 1830 Flower Street, Bakersfield.

SAN DIEGO COUNTY HEART ASSOCIATION Eleventh Annual Symposium. San Diego Veterans War Memorial Building, October 27 and 28. *Contact:* O. M. Avison, executive director, 3545 Fourth Avenue, San Diego 3.

NOVEMBER MEETINGS

AMERICAN COLLEGE OF PHYSICIANS Southern California Region Annual Basic Science Lecture. Statler Hilton, Los Angeles, November 1, 6:30 p.m. *Contact:* George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.

SAN DIEGO COUNTY GENERAL HOSPITAL Fifteenth Annual Postgraduate Assembly. November 1 and 2. No registration fee. *Contact:* David E. Wile, M.D., chairman, San Diego County General Hospital, San Diego.

LOS ANGELES PEDIATRIC SOCIETY (of Los Angeles County Medical Association) Annual Brennemann Lecture Series. Ambassador Hotel, Los Angeles, November 8 and 9. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.

PACIFIC COAST FERTILITY SOCIETY Tenth Annual Meeting, El Mirador Hotel, Palm Springs, November 9 through 12. *Contact:* Gregory Smith, M.D., secretary, 909 Hyde Street, San Francisco 9.

SAN DIEGO CHAPTER, CALIFORNIA ACADEMY OF GENERAL PRACTICE Fifth Annual Meeting. November 9 through 11, Riviera Hotel, Las Vegas. *Contact:* George H. Burkhart, M.D., 514 Third Ave., Chula Vista.

WESTERN SURGICAL ASSOCIATION, November 29 through December 1, St. Francis Hotel, San Francisco. *Contact:* Walter W. Carroll, M.D., secretary, 700 N. Michigan Ave., Chicago 11.

DECEMBER MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS Seventh Annual Postgraduate Course on Diseases of the Chest,

December 4 through 8, 9:00 a.m. to 5:00 p.m. daily, Statler Hilton Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut Street, Chicago 11, Illinois.

1962 MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Sixth Midwinter Professional Symposium, January 10, Statler Hilton Hotel, Los Angeles. *Contact:* Edward Shapiro, M.D., chairman, Professional Symposium Committee, Los Angeles County Heart Association, 2405 W. 8th Street, Los Angeles 57.

AMERICAN COLLEGE OF SURGEONS Sectional Meeting. Statler-Hilton and Biltmore Hotels, Los Angeles, January 29 through February 1. *Contact:* William E. Adams, M.D., secretary, 40 E. Erie Street, Chicago 11.

TUBERCULOSIS AND HEALTH ASSOCIATION OF CALIFORNIA Annual Meeting. El Cortez Hotel, San Diego, February 7 through 10. *Contact:* Mr. Wm. Phraener, coordinator, public relations, 130 Hayes Street, San Francisco.

AMERICAN COLLEGE OF PHYSICIANS SOUTHERN CALIFORNIA REGION Annual Regional Meeting. El Mirador Hotel, Palm Springs, February 16 through 18. *Contact:* George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.

PACIFIC COAST SURGICAL ASSOCIATION Annual Meeting. Sheraton Hotel, Portland, Oregon, February 18 through 21. *Contact:* Carleton Mathewson, M.D., Presbyterian Medical Center, San Francisco.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series. Evening of March 6 and all day March 7, Statler Hotel, Los Angeles. *Contact:* R. W. Watson, 504 So. Sierra Madre Boulevard, Pasadena.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, INC., Biltmore Hotel, Los Angeles, March 21 through 24. *Contact:* Dr. Marion F. Langer, 1790 Broadway, New York 19.

INTERNATIONAL COLLEGE OF APPLIED NUTRITION Annual Convention. Huntington-Sheraton Hotel, Pasadena, March 22 and 23. *Contact:* Donald C. Collins, M.D., secretary, Suite 503, 7046 Hollywood Blvd., Hollywood 28.

Letters to the Editor...

June 13, 1961

In view of widespread interest in a recent report concerning the use of tolbutamide for treatment of multiple sclerosis,¹ it was decided to investigate the efficacy of this drug, using the double blind technique, in a group of patients with multiple sclerosis of varying degrees of severity and duration. For this purpose eighteen patients of the Palo Alto Medical Clinic suffering from multiple sclerosis and living in the immediate area consented to take part in our study. There were fifteen females and three males. The ages of patients ranged from twenty-three to fifty-two years. The duration of illness varied from six months to twenty-three years.

All patients were given a complete neurological examination to establish the diagnosis of multiple sclerosis. A three-hour glucose tolerance test was performed on all patients and was within normal limits in all cases. Patients were given a modified diabetic diet consisting of 135 to 180 grams of carbohydrate, 65 grams of protein, and 65 to 90 grams of fat, with caloric intake adjusted to the ideal weight of the patient. After two weeks of this diet, which was continued throughout the study, all patients were given either tolbutamide* 0.5 grams three times a day or an identical-appearing placebo (dibasic calcium phosphate) three times a day. After six weeks of therapy in this manner, medication was switched unknown to the patient and treatment continued another six weeks. During this three-month study patients were examined at two-week intervals and accurate records kept of outstanding neurological defects.

Though subjective symptoms waxed and waned in all patients during both tolbutamide and placebo treatment, there were no consistent changes in objective neurological status of these fifteen patients on either regimen.

It would appear from this study that tolbutamide is of no value in the treatment of multiple sclerosis. A recent communication from the author of the original paper describing tolbutamide therapy for multiple sclerosis stated he now felt that it was of benefit only in patients with an elevated or diabetic glucose tolerance curve.² The only other study that has appeared to date is that of an English group

*Kindly supplied (as Orinase) by the Upjohn Company, Kalamazoo, Michigan.

which likewise found tolbutamide to be of no value in the treatment of multiple sclerosis.³

Thus it would appear that the original report was premature and caused an unfortunate flurry of interest and hope in the many victims of multiple sclerosis throughout the country.

Sincerely,

ALBERT F. PETERMAN, M.D.

Division of Neurology
Palo Alto Medical Clinic
300 Homer Avenue, Palo Alto

REFERENCES

1. Sawyer, G. A.: Treatment of multiple sclerosis with tolbutamide: a preliminary report, *J.A.M.A.*, 174:470-473, October 1, 1960.
2. Sawyer, G. A.: Letter to editor, *J.A.M.A.*, 176:166, April 15, 1961.
3. Foster, J. B., et al.: Multiple sclerosis, *Lancet*, 1:915, April 29, 1961.

I was rather surprised to read in the April 1961 issue of *CALIFORNIA MEDICINE* that the East Bay Rehabilitation Center was the "only one of its kind in northern California attached to a modern general hospital, offering a comprehensive rehabilitation program to private patients." The Division of Rehabilitation Medicine of Stanford Medical Center offers comprehensive rehabilitation on an inpatient and outpatient basis to private patients and is an essential part of the Palo Alto Stanford Hospital. There is a full time staff of physiatrists on the University faculty who make this their primary professional activity.

Very truly yours,

DANIEL J. FELDMAN, M.D.

Director, Division of Rehabilitation
Medicine, Stanford Medical Center

To Dr. Feldman's letter, Dr. Moylan B. Kehoe, medical director of the East Bay Rehabilitation Center, replied:

"Dr. Feldman's point is well taken. Unfortunately this mistake has arisen from the fact that we have issued such publicity since prior to the establishment of the Stanford Rehabilitation Service as it now exists."

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Research in the Service of Medicine

New Test Found for Detecting Cancer

A new laboratory test for detecting cancer—based on enzyme activity—was reported in the June 3 *Journal of the American Medical Association*.

The test could help physicians treat patients in whom there is an abnormal and unexplained escape of fluid into various parts and tissues of the body, a possible sign of cancer.

Determining whether patients with this symptom, termed effusion, have cancer is a "difficult challenge," according to Russell J. Erickson, Cancer Research Institute, University of California School

of Medicine, San Francisco, who will receive his M.D. degree this month.

Based on earlier studies which showed that the activity of the enzyme lactic dehydrogenase (LDH) was associated with the presence of cancer, Erickson studied LDH activity in samples of effusion fluids taken from the lung and stomach area of 14 patients.

The results indicated that "LDH activity in effusion fluids can be used as a diagnostic test in the detection of malignancy," he reported.

Effusions of non-malignant origin generally exhibited less LDH activity than did effusions of malignant origin, he said. Effusions containing pus or involving massive tissue destruction were the only exceptions, he said.

The difference between LDH activity in malignant and non-malignant pusless fluids was "statistically significant," he said.

The study also indicates that cancer can be detected in patients with tuberculosis and cirrhosis, a liver ailment, which also has been a difficult diagnostic problem, Erickson said.

Furthermore, he said, the value of the test is enhanced by its simplicity.

LDH acts as a catalyst in the chemical processes of the body as do all enzymes. Earlier studies suggested that effusion fluids might pick up LDH from a nearby cancerous growth.

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Each 5 cc. (one teaspoonful) contains:	
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Cobalt (as Cobaltus Betaine Citrate)	0.1 mg.
Manganese (as Manganese Betaine Citrate)	1.0 mg.
Zinc (as Zinc Betaine Citrate)	1.25 mg.
Magnesium (as Magnesium Betaine Citrate)	6.0 mg.
Vitamin B-1	1.5 mg.
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Vitamin B-12	6.0 mcg.
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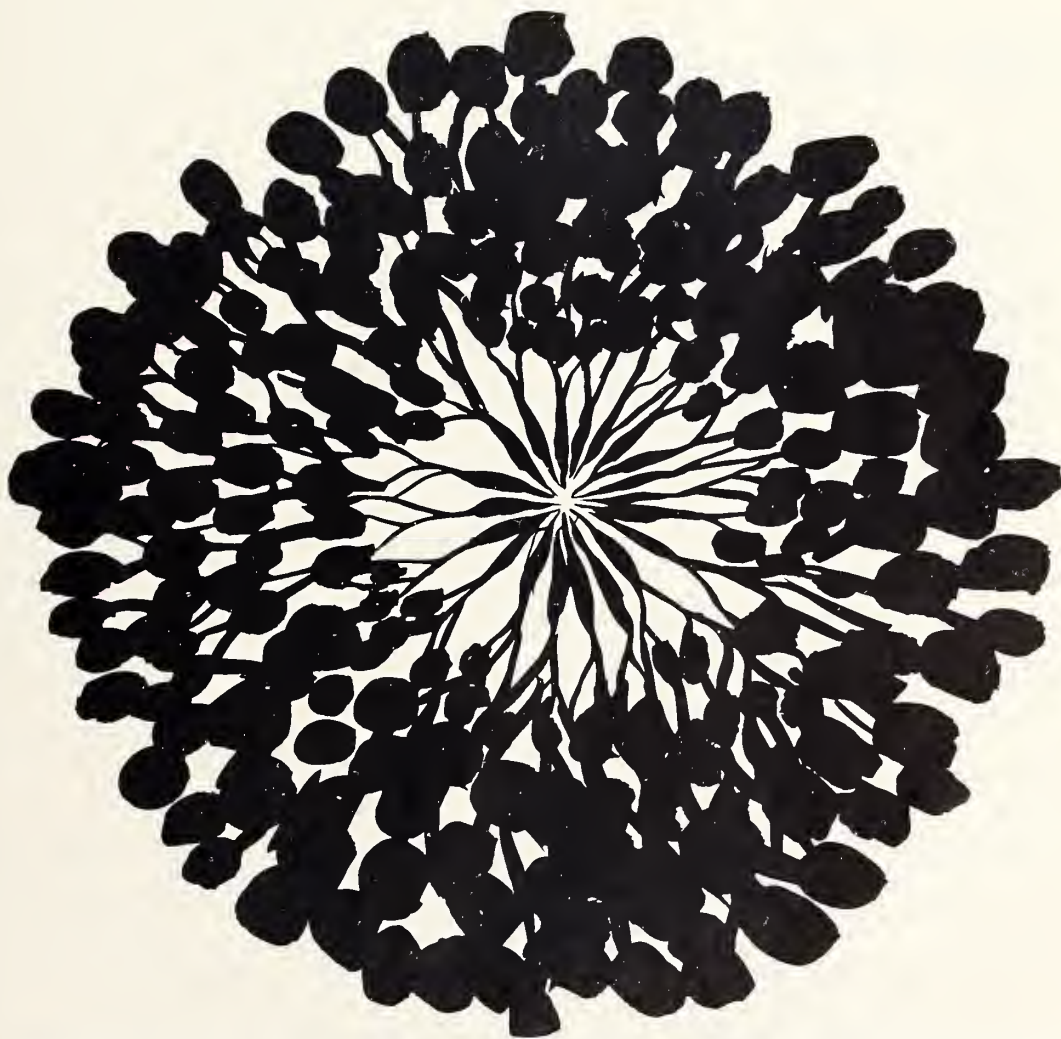
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REFERENCES AND REVIEWS

(Continued from Page 28)

perceived illustrations the important anatomical features of the shoulder girdle contributing to the substrate which permits such compression syndromes to develop. As these are the two primary elements afflicted by the compression syndromes, the authors survey the anatomy of the brachial plexus and nerve supply to the upper extremity as well as its vascular supply. The congenital or acquired abnormalities responsible for precipitating symptomatology are reviewed, and the pathogenesis of each is succinctly set forth. The scalene muscle cervical root syndrome is diagnosed in part by the utilization of the Adson maneuver, the mechanics of which are well portrayed demonstrating the compression of the vessels and nerves by the related scalene muscles. The costoclavicular syndrome is diagnosed in part by the diagnostic maneuver which compresses the neurovascular bundle between the clavicle and the first rib. The hyperabduction syndrome is diagnosed in part by the maneuver which places the pectoralis minor muscle on stretch thereby compressing the neurovascular elements in the hyperabducted posture. The latter two clinical tests are well shown in clear drawings. Although pain is a dominant feature of the patient with these three syndromes it is of significance that a greater number demonstrate evidences of vascular insufficiency. The involvement of vascular structures as demonstrated by venography is well illustrated and instructive case histories are recorded. The analysis of each of the common symptoms, each of the objective findings, and the reliability of the various diagnostic maneuvers are well tabulated. It is significant that in the usual case more than one mechanism is responsible for the patient's symptomatology.

The management is well outlined and, as stated by the authors, more than 70 per cent of patients will be significantly relieved by conservative management which is set forth with care. A refreshing analysis of the results of surgical therapy is presented with a careful tabulation of results. In the total assessment of the authors' surgical experience in 51 cases involving 61 extremities, their results were excellent in 23 extremities, good in 28, fair in 4 and poor in 6. The 51 patients eventually submitted to operation were chosen from a larger number of patients not individually reviewed in the monograph. The monograph concludes with a resume of each of the 51 case histories. The entire work is well annotated by references of which there are 99 in number. The index is reasonably complete. The book is well produced. The print is legible. It is recommended for all practitioners whether they be in general medicine or in the specialty field who deal with patients complaining of painful extremities.

W. EUGENE STERN, M.D.

* * *

DIURETIC RESPONSE TO HYGROTON, MERSALYL, AND ALDACTONE—W. K. Stewart and L. W. Constable, *Lancet*—Vol. 1:523 (March 11) 1961.

The effects of chlorthalidone (Hygroton) were compared in each patient (series of 12 with generalized edema) with those of chlorthalidone plus spironolactone (Aldactone) and separately with mersalyl (Salygan). Pretreatment urinary sodium excretion correlated with subsequent response and was classified as responsive or resistant. The potency of chlorthalidone as a sodium eliminator was greater than that of mersalyl in responsive patients, but the reverse was observed in resistant patients, kaluresis in resistant patients was proportionately less than with mersalyl. Spiroolactone potentiated sodium elimination and also reduced potassium losses. Some reduction in net urinary acid output, noted after administration of chlorthalidone, was attributed to the elimination of edema fluid bicarbonate. A possible interference by the hypoglycemic agent (phenformin) on the diuretic action of chlorthalidone was noted in one patient.

**THESE 600,000
PEOPLE IN
CALIFORNIA NEED
MEDICAL HELP**

Heart disease, cancer, mental illness — everyone knows the nation's three major medical problems. Do you know that alcoholism ranks fourth? In the state of California there are at least 600,000 alcoholics. These people need medical help. No one is in a better position to initiate and supervise a program of rehabilitation than the physician who enjoys the confidence of the patient or the patient's family.

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Consult literature and dosage information, available on request, before prescribing.

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Consult literature and dosage information, available on request, before prescribing.



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With sufficient motivation, a sleeping person can differentiate between such similar sounds as the telephone and the doorbell.

This was reported recently by William W. K. Zung, M.S., and W. P. Wilson, M.D., University of Texas Medical Branch, Galveston, Tex., in the (June) *Archives of General Psychiatry*, published by the American Medical Association.

They subjected 25 normal male volunteers to a variety of familiar and unfamiliar sounds during various stages of sleep to determine how specific the discriminatory ability is in this state.

Familiar sounds included cars starting and stopping, door chimes, trains, clock striking, telephone ringing, airplanes flying, sirens, rain storm, door bells, and motorcycles. Unfamiliar sounds included Chinese gongs, artillery gunfire, lion roars, bagpipes, monkey howls, baby crying, fox hunts, and anti-aircraft guns. All of the sounds were produced at roughly the same noise level.

Some of the subjects were told that if they awakened completely each time they heard either a telephone ring or bagpipes playing, they would receive extra payment for the achievement.

The researchers found that the motivated volunteers could and did discriminate between sounds in all stages of sleep. The ability was sufficiently

specific to discriminate between a telephone ringing, and somewhat similar sounds, such as door bell ringing, door chimes, and clock striking, they pointed out.

However, the authors added, this ability was decreased in the deepest stage of sleep.

The study also showed that subjects responded to noise more frequently when they were in the lighter stages of sleep, and subjects responded in the same manner to the familiar sounds as they did to the unusual sounds.

Safety Tips for Flying Kites

The following safety rules for flying kites were suggested in the (May) *Today's Health*, a publication of the American Medical Association:

—Never fly a kite in the rain.


—Don't fly a kite that has metal in the frame or tail, or use tinsel-string, wire, or twine that has metal in it.

—Avoid electric power lines, radio and television aerials when flying a kite.

—If the kite gets caught in power lines, never pull on the string or climb the pole to loosen it.

—Fly the kite in an open field and avoid running across streets or highways.

—If the kite or string gets stuck on a roof, tree, or wires, leave it there and get a new kite.



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2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

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Study Physical Fitness Of American Youth

If the modern American child is becoming physically soft compared with his European counterpart, it would be difficult to prove, a study indicated recently.

A group of Philadelphia researchers studied the physical fitness of public school children and university students and compared the findings with similar groups in Germany and Sweden.

The study "seems to indicate that the difference in physical work capacity or physical fitness between some American and some European children and young adults may not be as marked as has been generally assumed," the researchers reported in the (May) *Archives of Environmental Health*, published by the American Medical Association.

"It appears to be a widely accepted view that the American child is inferior to the European child with regard to physical fitness," they said. "The difference has been attributed to the high degree of mechanization in the United States eliminating much of the physical activity which is still part of normal living and recreation in Europe."

However, the authors said their study showed "no marked difference" in physical fitness between the Philadelphia children studied and a similar group in Dortmund, Germany, although subjects from a number of Swedish cities were generally superior.

It appeared reasonable to assume, they said, that the superiority of the Swedish subjects was "due to a greater amount of physical training and activity."

The study also revealed a significant difference among students of the Philadelphia schools. Students of the elementary schools of North Philadelphia in general were superior to those of South Philadelphia elementary schools.

Furthermore, the authors pointed out, there were differences between subjects of various Swedish communities. For example 14-year-old Stockholm boys were physically inferior to 14-year-old boys from some other Swedish cities.

"In view of the fact that such significant differences in physical work capacity can be demonstrated between one city and another, and indeed between different schools in the same city, caution should be exercised when comparing the state of physical fitness in one country with that of another," the researchers said.

The Philadelphia study involved 601 students aged 8 to 18 from 5 public schools, representing the average socio-economic background and the typical amount of activity and physical education.

No significant difference in physical performance capacity was found between white and nonwhite Philadelphia subjects.

When 14-year-old Stockholm children were compared with 14-year-old Philadelphia children, there

was no significant difference between the boys but the Swedish girls were significantly superior.

When Philadelphia women aged 20 to 22 were compared with Swedish housewives aged 20 to 29 who engage in 30 minutes of physical training each week, the Swedish housewives showed a marked superiority.

It would be of value to determine the kind and amount of training required to produce a significant improvement in physical work capacity in the different age groups, the authors said.

The study was reported by Kaare Rodahl, M.D.; P. O. Astrand, M.D.; Newton C. Birkhead, M.D.; T. Hettinger, M.D.; B. Issekutz, Jr., M.D.; D. M. Jones, B.A., and R. Weaver, M.D., Philadelphia.

High Blood Pressure Controlled Through New Approach

A new potent, long-lasting, orally-administered drug has proved capable of controlling severe high blood pressure in 14 of 16 patients, it was reported.

The drug, guanethidine (Ismelin), represents a "new approach" to the treatment of severe high blood pressure and "differs radically" from drugs now used for the condition, according to an article in the May 20 *Journal of the American Medical Association*.

In 16 patients, whose progress was followed for 1 to 8 months, the drug "gave good control in 14, with minimal side-effects and no toxic manifestations." Drs. John J. Kelly Jr., Edmund L. Housel, and James W. Daly, Philadelphia, reported.

The patients were 9 women and 7 men in whom the condition had persisted for periods of 3 to 20 years. All the patients except one had taken other antihypertensive drugs with only poor control.

Guanethidine differs from currently-used drugs because it acts on the arteries and veins rather than the brain and nervous system, the authors said.

The new drug is believed to lessen the tension of the arteries and veins, giving them a capacity for a larger volume of blood, they explained. In this way,

(Continued on Page 36)

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1. Franklin, M., et al.: JAMA 166:1685, 1958.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.

ADRENAL CORTEX, THE—By 19 Authors—Edited by Henry D. Moon, M.D., Chairman and Professor of Pathology, University of California, San Francisco Medical Center, Paul B. Hoeber, Inc., Medical Division of Harper & Brothers, 49 East 33rd Street, New York 16, N. Y., 1961. 315 pages, \$10.50.

CARDIAC ARRHYTHMIAS—A Guide for the General Practitioner—Brendan Phibbs, M.D., Casper Clinic, Casper, Wyoming. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis, 1961. 128 pages, \$7.50.

CLINICAL METHODS OF NEURO-OPHTHALMOLOGIC EXAMINATION—Second Completely Revised and Enlarged Edition—Alfred Kestenbaum, M.D., Lecturer, Formerly Associate Clinical Professor, New York University; Neuro-Ophthalmic Surgeon and Chief of Neuro-Ophthalmic Service, New York Eye and Ear Infirmary. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 577 pages, \$16.75.

ESSENTIAL HYPERTENSION—An International Symposium—Berne, June 7-10, 1960, Sponsored by CIBA. F. C. Reubi, Chairman, Berne. Edited by K. D. Bock, Basle, and P. T. Cottier, Berne. Springer-Verlag: Berlin, Göttingen, Heidelberg, 1960.

COMPARATIVE EPIDEMIOLOGY OF MENTAL DISORDERS—Edited by Paul H. Hoch, M.D., and Joseph Zubin, Ph.D. Grune & Stratton, 381 Park Avenue South, New York 16, N. Y., 1961. 290 pages, \$6.75.

NEW BOOK

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FIELD STUDIES IN THE MENTAL DISORDERS—Edited by Joseph Zubin, Ph.D., Professor of Psychology, Columbia University. The Proceedings of the Work Conference on Problems in Field Studies in the Mental Disorders, February 15-19, 1959. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 495 pages, \$9.75.

HEALTH EDUCATION—Fifth Edition, Completely Rewritten, 1961—A Guide for Teachers and a Text for Teacher Education—A Project of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association—Edited by Bernice R. Moss, Ed.D., Professor of Health Education, University of Utah, Editor; Warren H. Southworth, Dr. P.H., Professor of Health Education, University of Wisconsin, Associate Editor; John Lester Reichard, M.D., Chicago, Illinois, Associate Editor. National Education Association of the United States, 1201 Sixteenth Street, N.W., Washington 6, D. C. 429 pages, \$5.00.

HEREDITY IN OPHTHALMOLOGY—Jules Francois, Professor of Ophthalmology at the University of Ghent, Belgium. Translated from the French Edition entitled *L'Hérédité en ophtalmologie*. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis, 1961. 731 pages, with 629 figures including 6 in color, \$23.00.

MAN AND SEX—A Practical Manual of Sexual Knowledge—Joseph J. Kaufman, M.D., and Griffith Borgeson. Simon and Schuster, Publishers, 630 Fifth Avenue, Rockefeller Center, New York 20, N. Y., 1961. 254 pages, \$3.95.

MEDICAL PHARMACOLOGY—Principles and Concepts. Andres Goth, M.D., Professor of Pharmacology and Chairman of the Department, University of Texas Southwestern Medical School, Dallas. The C. V. Mosby Company, St. Louis, 1961. 551 pages, \$11.00.

MEMOIRS OF A MEDICO—Dr. E. Martinez Alonso. Doubleday & Company, Inc., Garden City, N. Y., 1961. 335 pages, \$4.50.

PATHOLOGY OF TUMOURS—Third Edition—R. A. Willis, D.Sc., M.D., F.R.C.P., Honorary Research Fellow, University of Leeds, Consultant Pathologist to the Imperial Cancer Research Fund, London, Formerly Professor of Pathology, Royal College of Surgeons, and University of Leeds. Butterworth, Inc., 7235 Wisconsin Avenue, Washington 14, D. C., 1960. 1,002 pages of text, 56 pages of index, and 500 illustrations, \$21.00.

PHYSICIAN'S INTRODUCTION TO ELECTRONICS, A—A Laboratory Manual—A. C. Morris, Jr., Medical Division, Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn. Pergamon Press, 122 East 57th Street, New York 22, N. Y. 43 pages, \$2.50.

PRACTITIONER'S HANDBOOK—Edited by William A. R. Thomson, M.D., Editor of The Practitioner, J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 711 pages, \$12.50.

PROGRESS IN MEDICAL GENETICS—Volume I—Edited by Arthur G. Steinberg, Ph.D., Professor of Biology, Department of Biology, and Associate Professor of Human Genetics, Department of Preventive Medicine, Western Reserve University, Cleveland, Ohio. Grune & Stratton, Inc., 381 Park Ave. South, New York 16, N. Y., 1961. 341 pages, \$9.75.

RECENT ADVANCES IN BIOLOGICAL PSYCHIATRY—Volume III—With an Introductory Essay by Paul Hock, M.D., on The Achievements of Biological Psychiatry—Edited by Joseph Wortis, M.D., Associate Clinical Professor of Psychiatry, State University of New York, Downstate Medical College, Brooklyn. Proceedings of the Fifteenth Annual Convention and Scientific Program of the Society of Biological Psychiatry, Miami, June, 1960. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 241 pages, \$9.75.

SUBLUXATION AND DISTORTION OF JOINTS WITHOUT FRACTURE—Rowland Hill Harris, A.B., M.D., F.A.C.S., F.R.C.S. Ed., Fellow of the Royal Society of London, Member of Founders' Group of the American Board of Surgery, Formerly Chief Surgeon of the Battle Creek Sanitarium, Battle Creek, Michigan. San Lucas Press, Los Angeles, 1961. Distributed by University Publishers, Inc., 59 East 54th Street, New York 22, N. Y., 1961. 156 pages, \$6.00.

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REFERENCES AND REVIEWS

EVALUATION OF A SPECIFIC ANTISERUM FOR SERUM BETA LIPOPROTEIN ESTIMATIONS—L. M. Bergquist, V. P. Carroll, Jr., and R. L. Searcy. *Lancet*—Vol. 1:537 (March 11) 1961.

A commercially available specific antiserum provides efficient means for rapid and reproducible precipitation of human serum beta lipoproteins. Antiserum is produced by the immunization of goats with ultracentrifugally isolated human serum lipoproteins (density, 1.063 gm/ml). On glass slides, 0.06 ml. of serum are mixed with 0.16 ml. of antiserum. Serum-antiserum precipitates are measured in millimeters after centrifugal sedimentation in standardized capillary tubes. Completeness of precipitation was shown by comparing electrophoretic patterns before and after immunoprecipitation of serum. Alimentary lipemia was shown to have little effect on lipoprotein precipitate values. Low-density lipoprotein estimations compared well with 145 electrophoretic determinations of beta lipoprotein cholesterol. The immunochemical method may be valuable in detecting increased low-density lipoprotein levels in studies of large population groups.

* * *

DISINFECTION OF BEDPANS—E. M. Darmady, K. E. A. Hughes, J. D. Jones, D. Prince, and P. Verdon. *J. Clin. Path.*—Vol. 14:66 (Jan.) 1961.

After it had been demonstrated that five different methods of cleansing bedpans were unsatisfactory, it occurred to the authors that a standard dish-washing machine could be adapted for the cleansing of bedpans. The following pro-

cedure was introduced. The solids were discharged into an open sluice or preferably into a sluicing machine fitted with a lavatory flush. Four pans are then transferred to a dish-washing machine, and the automatic cycle is switched on. Since the cycle lasts nine minutes, the nurse is available for other duties. Visual and bacteriologic examinations have shown that the machine produces superior and more reliable results than do other methods of cleansing bedpans.

* * *

VITAMIN K-S (II) IN LIVER DISEASE—J. C. Hoak and J. R. Carter. *Arch. Int. Med.*—Vol. 107:715 (May) 1961.

Patients with severe liver disease and defective accelerator activity were given a new drug, vitamin K-S (II) [S-(2-methyl-1, 4-naphthoquinonyl-3)- β mercaptopropionic acid]. Heretofore, there has been little to offer the patient with acquired Factors V and VII deficiencies except transfusion of blood or plasma. In 21 of 33 patients, this drug produced a good or excellent response as regards improvement of accelerator activity. Depressed plasma prothrombin levels did not improve. Bleeding stopped in all patients who had no other cause for bleeding than the coagulation defect. The drug was effective when given orally or intravenously. No toxic effects were noted.

* * *

EXPERIMENTAL HYPERTENSION AND ATHEROSCLEROSIS—R. F. Rosenthal and R. M. O'Neal. *Arch. Path.*—Vol. 71:554 (May) 1961.

Previous studies have shown that evidence of pulmonary hypertension may be produced easily in experimental animals by intravenous embolization of the pulmonary circuit with a suspension of inert plastic beads. Likewise, cholesterol-induced atherosclerosis in the rabbit has been shown to affect the pulmonary vasculature as well as the aorta. In

(Continued on Page 20)

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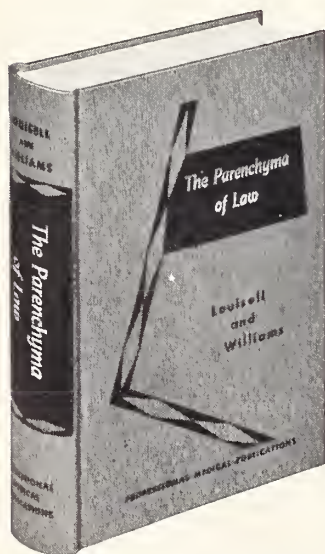
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References: 1. Brown, E. A.: Antibiotic Med. & Clin. Ther. 6:412, 1959. 2. Feinberg, S. M.: Med. Sci. 6 (No. 3):181, 1959.

Applied: As 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100 and 1000. As Injection DECADRON Phosphate in 5 cc. vials, each cc. containing 4 mg. of dexamethasone 21-phosphate as a disodium salt; inactive ingredients: 8 mg. creatinine, 10 mg. sodium citrate; sodium hydroxide to pH 7.8, and water for injection q.s. 1 cc.; preservatives: 0.32 per cent sodium bisulfite and 0.5 per cent enol. DECADRON is a trademark of Merck & Co., Inc.

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REFERENCES AND REVIEWS

(Continued from Page 18)

the present study, 32 rabbits were placed on a high cholesterol diet. Half of these animals were then given intravenous plastic bead suspensions and developed right ventricular hypertrophy. It was found that this latter group of animals developed a significantly greater degree of pulmonary atherosclerosis than did the control group which did not receive beads. Results of this study furnish further evidence for the role of hypertension per se as a factor in the development of experimental cholesterol atherosclerosis.

* * *

BONE MARROW TRANSPLANTATION—E. Storti. *Minerva Med.* Vol. 52:295 (Jan. 31) 1961.

Bone marrow was withdrawn from each of 26 patients with different types of neoplasia, and it was stored at -79°C . (-112°F .) to be reimplanted at the end of massive radiation and chemotherapy which, with few exceptions, coincided with the onset of severe leukopenia and thrombopenia. Patients whose blood formula had dropped to 400 to 500 leukocytes and 10,000 platelets per cubic millimeter received autologous bone marrow transplantation; 25 days later they had recovered from the medullary lesions caused by radiation. But 10 patients who were in better condition and did not receive the transplantation had not returned to normal values three months after terminating radiotherapy. Bone marrow transplantation was also applied to six patients who had incipient neoplasias and were receiving massive radiation combined with intensive chemotherapy. The results will be reported after enough time has elapsed for evaluation. Another indication for this autologous transplantation is medullary lesion caused by accidental radiation, as it was applied in the treatment of the six Yugoslavian scientists who received massive radiation from an atomic reactor in 1958, as reported by Mathé and coworkers.

DOUBLE BLIND TRIAL TO INVESTIGATE THE EFFECTS OF THORAZINE (CHLORPROMAZINE), COMPazine (PROCHLORPERAZINE), AND STELAZINE (TRIFLUOPERAZINE) IN PARANOID SCHIZOPHRENIA—I. C. Wilson, J. McKay, and M. G. Sandifer Jr. *J. Ment. Sci.*—Vol. 107:90 (Jan.) 1961.

The phenothiazines are becoming more potent and they appear to become much more specific in alleviating the primary thought, emotional, and behavioral disorders in schizophrenia. On the assumption that these drugs had a differential therapeutic effect in the alleviation of schizophrenic symptoms, a double-blind trial was set up in eight paranoid schizophrenics, who were selected mostly from intermediate stay patients, that is, those who had failed to respond satisfactorily to the initial three months' intensive therapy. Chlorpromazine, prochlorperazine, trifluoperazine and an inert placebo were used in a latin square design. None of the drugs had an appreciably different effect on psychotic ideation, but prochlorperazine and trifluoperazine were definitely superior in the management of overall psychopathology as measured by the rating scales devised by Malamud and Sands in 1947.

* * *

BILE DUCT RECONSTRUCTION WITH GASTRIC PEDICLE TUBE—H. J. Heimlich and G. F. Gitlitz. *Arch. Surg.*—Vol. 82:755 (May) 1961.

In this new operation for reconstructing obstructed bile ducts, a pedicle flap is created from the greater curvature of the stomach and made into a tube which remains attached at the pyloric end of the antrum. The proximal end of this gastric tube is anastomosed to the bile duct above the obstruction, permitting bile to flow into the stomach. The right gastroepiploic vessels accompany this tube, nourishing it; therefore, the tube can be made any reasonable

(Continued on Page 22)

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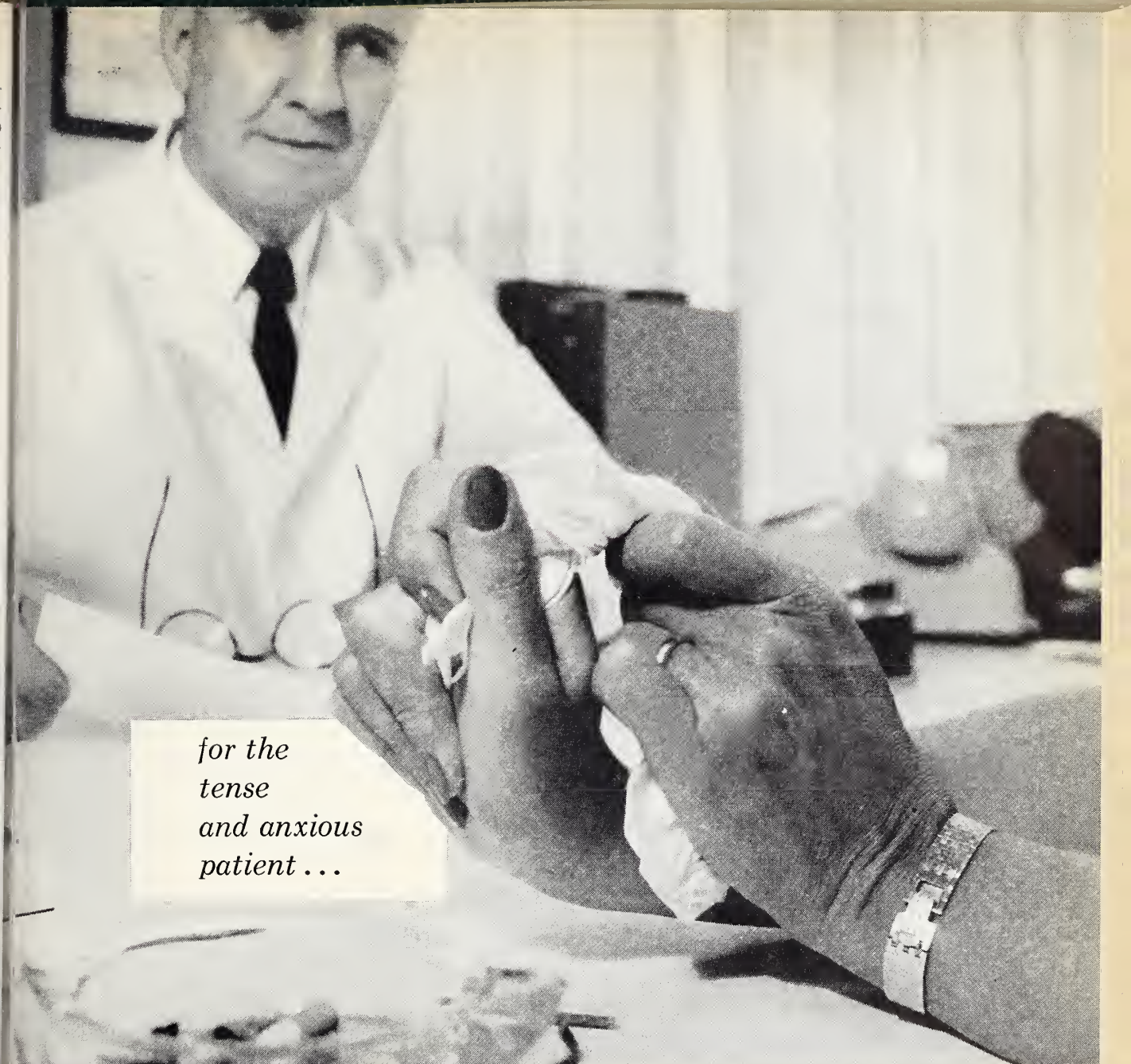
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REFERENCES AND REVIEWS

(Continued from Page 20)

length and diameter. When combined with cholecystectomy, the operation was successful in two dogs sacrificed in 7½ and 19 months postoperatively; a third animal died of cholangitis. Four dogs that had the procedure without cholecystectomy succumbed to cholangitis. The operation completely relieved bile duct obstruction in a patient with carcinoma of the head of the pancreas who was followed for six months postoperatively.

* * *

KNITTED MARLEX MESH—F. C. Usher. Arch. Surg.—82:771 (May) 1961.

The successful use of a woven mesh of Marlex monofilament for repairing hernias was reported by the author. Marlex mesh was found to cause very little foreign-body

reaction and to be inert in the presence of infection. There were, however, several disadvantages to the taffeta weave—it lacked elasticity and the cut edges tended to ravel unless heat-sealed. The author found that a knitted mesh prepared from Marlex monofilament was superior to the woven mesh. It was more pliant and more resistant to fragmentation, it was resilient and had “two-way stretch,” and the cut edge did not ravel. The knitted material was thicker than the taffeta weave, resulting in a heavier ingrowth of fibrous tissue and a stronger repair of the defect. Clinical use of the knitted mesh in 32 patients has been most satisfactory.

* * *

STUDIES OF NICOTINIC ACID USE IN HYPERCHOLESTEREMIA—W. B. Parsons, Jr. Arch. Int. Med.—Vol. 107:653 (May) 1961.

Large doses of nicotinic acid (3 to 6 mg. daily), administered for long periods to reduce serum cholesterol levels, caused reproducible alterations in the bromsulphalein tests in 8 to 36 patients. These alterations were accompanied by abnormal serum transaminase (SGOT) and alkaline phosphatase levels in some cases. Evidence that the alterations represent hepatic dysfunction (possibly related to changes in cholesterol synthesis), rather than hepatocellular damage, includes rapid reversibility of the chemical findings, preponderance of abnormal results in patients receiving delayed-release nicotinic acid preparations, and the absence of consistent histologic abnormality. When abnormal biopsy findings have occurred, other possible contributing factors (carbon tetrachloride, diabetes mellitus, prochlorperazine) have cast doubt on the etiological role of nicotinic acid. Reversible impairment of glucose tolerance during nicotinic acid therapy has not been accompanied by clinical evidence of diabetes or changes in control of adult-onset diabetes. Inconsistent rises in average levels of serum uric acid have not been associated with gouty arthritis or renal calculi.

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Bath Oil Helps Geriatric Patients with Skin Disorders

A product containing Kerohydric® (brand of de-waxed, oil-soluble, keratin-moisturizing fraction of lanolin), mineral oil, and a nonionic emulsifier—that is more readily adsorbed by the skin—brought improvement in 86 per cent of 1,491 patients with various skin disorders associated with dryness and itching, according to Dr. Arthur P. R. James. Reporting his findings in the *Journal of the American Geriatrics Society*, the Ohio dermatologist writes: "This bath oil was first tried in 266 cases of senile pruritus. . . . Our results were so satisfactory that we were encouraged to use this type of balneo-therapy in other conditions."

Since effectiveness of this type therapy depends primarily on the adsorption of the oil by the skin, Dr. James refers to skin-adsorption studies which compared Kerohydric® with vegetable oil preparations, and oatmeal-oil combinations. Conclusion was that it is adsorbed about 50 per cent more than preparations containing vegetable oils. With oatmeal-oil combinations, it was found that the oatmeal apparently retains the oil and the skin cannot adsorb it.

The various skin disorders Dr. James treated with this Kerohydric® emulsion (trade name, Alpha-Keri®) included: dermatitis venenata; eczematoid

(Continued on Page 32)

Sabin Vaccine Successful In Czech Program

Nation-wide vaccination of children in Czechoslovakia last year with the Sabin oral live poliovirus vaccine produced "extremely favorable" results, according to a report in the (May 13) *Journal of the American Medical Association*.

"For the first time in the 30 years that the incidence of poliomyelitis has been recorded during the second half of the year, not a single case of paralytic poliomyelitis was confirmed," Drs. Vilem Skovranek and Karel Zacek, Prague, Czechoslovakia, said.

Spread of the viruses introduced by the immunization program was found to be limited, they said.

About 3,500,000 children aged 2 months to 14 or 15 years, roughly 93 per cent of the nation's child population, were inoculated with the Sabin vaccine in the Spring of 1960. These included some 140,000 children who took part in the first field trial of this vaccine in Czechoslovakia in the Winter of 1958-59.

"Every stage of the vaccination was conducted throughout the country at the same time and lasted an average of seven days," the authors said. "During the vaccination no complications were encountered, not even in children after surgical operations and tonsillectomy."

Although the incidence of the disease rose in the first months of 1960, the physicians reported, there was a "sharp drop" after the immunization program which manifested itself in the disappearance of the usual seasonal peak in 1960.

The Czech report made the following observations concerning the spread of polio viruses in connection with the use of the live polio virus vaccine based on a study dating back to 1958 before the first large-scale field trial:

—"The initial spread of viruses which follows their mass introduction into the child population is self-limited, and the attenuated strains do not appear to persist in a community longer than a few months.

—"There is no evidence that the attenuated viruses spread beyond the regions into which they had been introduced.

—"An extraordinarily reduced spread of polio-viruses could be demonstrated at the peak of the season, after the nation-wide use of oral vaccine in the Spring of 1960."

Before the 1961 Summer season, the authors said, it was planned that children born after last year's immunization program would be vaccinated and children vaccinated in 1960 would be revaccinated.

"We assume that live poliovirus vaccine gives a real hope for the complete eradication of poliomyelitis in our country," they concluded.

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**Sweets in Diet Show
No Effect on Acne**

Sugar in the diet apparently has no effect on the treatment of acne, two Chicago physicians reported recently.

Writing in the (June) *Archives of Dermatology*, published by the American Medical Association, Drs. Theodore Cornbleet and Irma Gigli said they found no difference in results obtained with acne patients allowed as much sugar as they desired, and those sharply restricted in its use.

The study involved 52 patients who were divided into two groups of similar age, severity of acne, and about the same division between sexes. One group was restricted to two teaspoonfuls of sugar a day for coffee or tea, and not allowed soft drinks containing sugar, or candy, and cake.

Both groups received the same treatment, antibiotics. Each patient was observed for at least one month.

In another study, the sugar tolerance of 15 acne patients was compared with 15 persons who did not have the condition. The acne patients showed no evidence of sugar intolerance, the two physicians reported.

Although adolescents have acne and are large consumers of sweets, it is doubtful whether there is good statistical evidence to support a dietary approach to the treatment of acne, the authors commented.

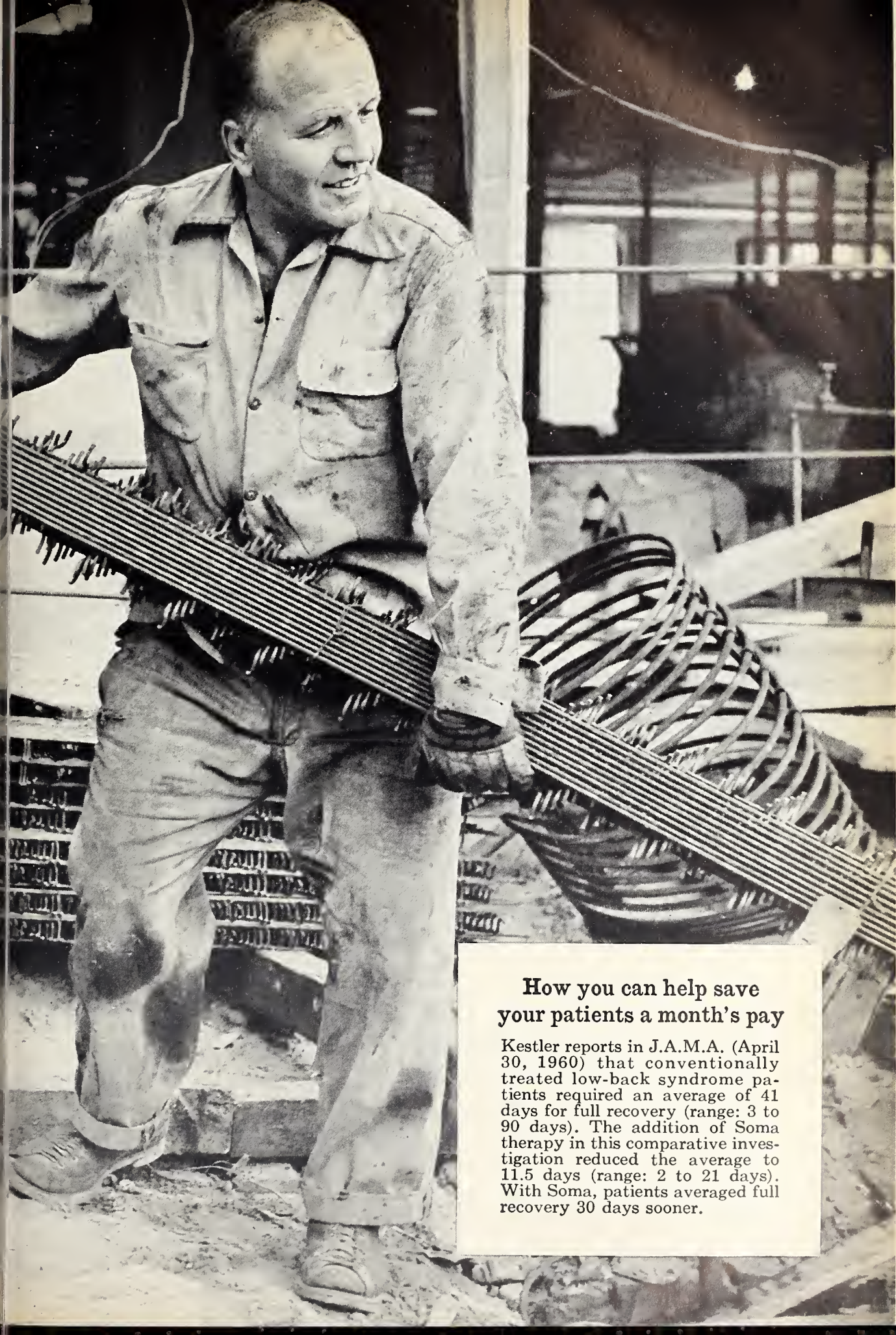
Now that there are other methods of treating the condition, they said, dermatologists might be able to dispense with "questionable approaches such as diet, until more solid evidence of their effectiveness is forthcoming." However, "most dermatologists find chocolate often offending," they added.

**Bath Oil Helps Geriatric
Patients with Skin Disorders**

(Continued from Page 24)

dermatitis (infectious and allergic); seborrheic dermatitis, psoriasis; ichthyosis; senile pruritus; and vulvar and anal pruritus. He instructed his patients to add 1/2 to 1 ounce of the oil to a tub of lukewarm water and soak in the tub for 10 to 20 minutes. Of the total 1,491 patients, Dr. James reports good/satisfactory results in 1,288 patients (86 per cent), and fair in 195 (13 per cent). Incidence of intolerance or sensitivity to the preparation was less than 1/4 of 1 per cent.

Describing the therapeutic effects, Dr. James said: "Its addition to the bath provides an emollient, antipruritic soak which is soothing to patients with dry, pruritic skin." Pointing out also that many dermatologic conditions are aggravated by use of soaps and other skin cleansers, he states: "The described combination bath oil affords adequate cleansing while performing its emollient function . . . making the use of soap and other cleansers unnecessary."



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High Blood Pressure Controlled Through New Approach

(Continued from Page 12)

they said, the amount of blood returned to the heart is reduced, with a subsequent decrease in the heart's output of blood and consequently in the blood pressure.

Despite the development of improved antihypertensive drugs which block impulses from the nervous system to the blood vessels and heart, these so-called ganglionic blocking agents produce side effects which "annoy the patient and doctor," the authors commented.

If further studies show equally good results, guanethidine or other drugs with similar action "will probably replace ganglionic blocking agents in the treatment of severe hypertension," they said.

Guanethidine at present should be used only for patients with severe high blood pressure and when other therapy has failed, they added.

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A CHAIR FOR BRONCHOSCOPY—F. J. D. Knights. *Lancet*—Vol. 1:488 (March 4) 1961.

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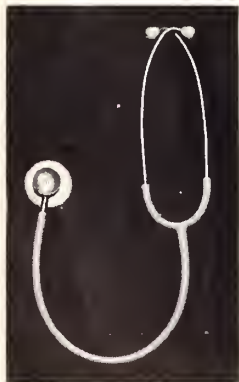
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Director Appointed for Honors And Scholarship Program

The American Medical Association recently announced the appointment of Lyman J. Smith, Ph.D., as director of its new Honors and Scholarship Program.

Dr. Smith, presently executive director of the Illinois State Scholarship Commission at Deerfield, Ill., will assume his new duties July 1, according to Dr. John B. Youmans, director of A.M.A.'s Division of Scientific Activities.

Dr. Youmans said that the Honors and Scholarship Program was recently created by the House of Delegates. A.M.A.'s policymaking body, to attract an increasing number of well-qualified young people to the medical profession.

The initial phase of the new program calls for the appointment of 250 undergraduates as A.M.A. Honor Students each year. Besides encouraging young students to seek a career in medicine, the appointment would serve as a challenge to fully develop their unusual talent for leadership in all fields of medicine.

To insure that honor students with limited financial resources will have the means to pursue medicine as a career, provisions have been made for the awarding of \$1,000 scholarships to 50 students each year. The scholarships would be awarded immediately on enrollment in medical school and would be renewed through each year of study.

In addition to the honors and scholarship program, the A.M.A. will also establish a loan program intended to provide financial assistance for students during their years of formal medical study. Through endorsement or co-signing by the A.M.A., loans would be made to students by local banks or other lending agencies at low interest rates and with deferred credit.

Dr. Youmans said that Dr. Smith brings to his new position an excellent background from the fields of education, guidance and counseling, as well as statistics and research.

Dr. Smith received his B.S. and M.S. degrees in education from Illinois State Normal University at Normal, Ill. Following a year of teaching at Mt. Morris (Ill.) high school, he entered the University of Illinois College of Education to do graduate work.

In addition to his graduate studies, Dr. Smith served as a member of the University staff counseling beginning students in education, teaching advance graduate courses in statistics, and counseling undergraduates and first year graduate students regarding teaching certification.

After receiving his doctorate in 1954, Dr. Smith joined the faculty at San Francisco State College. During this period he also served as director of a

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California M E D I C I N E

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
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Volume 95

AUGUST 1961

Number 2

Parathyroid Tumors

Intermittent Function, a Pitfall in Diagnosis

RALPH J. VEENEMA, M.D., New York

AS UROLOGISTS are frequently faced with the problem of recurrent renal calculi and the differential diagnosis in instances of hypercalcemia and hypercalciuria, it is natural for them to have an unusual interest in the problem of functioning parathyroid tumors. A careful study of the problem of these tumors impresses one immediately with the difficulties of diagnosis.

The clinical symptoms and signs of hyperparathyroidism vary greatly and affect many systems. Although renal and skeletal symptoms are most common, many patients also have gastrointestinal and neuromuscular symptoms. In the 70 cases of functioning parathyroid tumor reviewed in this study at Columbia-Presbyterian Medical Center from 1932 through 1959, there were five patients who were initially admitted to the Neurological Institute for investigation of headache and neuromuscular weakness and were subsequently found to have hyperparathyroidism. Three patients had symptoms primarily referable to duodenal ulcers.

In general, the symptomatology can be classed as (1) *nonspecific symptoms*, such as weakness, easy fatigability, irritability, weight loss and epigastric distress; (2) *symptoms referable to the kidneys*; (3) *symptoms referable to the skeleton*, such as bone pain, pathological fractures and deformities.

From the Squier Urological Clinic, Columbia-Presbyterian Medical Center, New York 32, New York.

Guest Speaker's Address: Presented before the Third General Meeting at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

• Seventy cases of functioning parathyroid tumors encountered at Columbia-Presbyterian Medical Center were reviewed. The clinical and chemical findings in parathyroid tumors were variable and were suggestive of intermittent function. The indirect diagnostic tests available today usually paralleled the basic serum calcium and phosphorus determinations. Urolithiasis was the most common complication observed, but the symptoms of it varied from simple colic and single calculus problem to extensive calculus disease. There were two instances of hyperparathyroid crisis or "hypercalcemic poisoning."

The symptomatology seems to follow no apparent sequential pattern—that is, renal involvement often precedes skeletal lesions and vice versa.

It is thus evident that symptomatology cannot be entirely reliable. Direct assay of parathormone is not a clinically applicable test as yet. It would be most helpful if such a direct assay were available, but we must rely on indirect chemical tests for diagnosis. The actual mechanism of action of the parathyroid hormone is still a subject of much study, but in general it can be stated that the chemical tests that are useful today are based on the two following actions of the hormone: (1) The mobilization of calcium from the skeleton, (2) the inhibition of reabsorption of filtered phosphate by the renal tubules, or so-called phosphate diuresis.

These indirect chemical tests such as the intravenous calcium loading test,⁵ 24-hour urinary cal-

cium determination, phosphate clearance, tubular reabsorption of phosphate^{3,8} and the basic serum calcium and phosphorus determinations, are helpful, but no single test is absolutely diagnostic. The chemical diagnosis is also limited by the fact that the reliability of these tests is dependent upon normal renal function and normal serum protein. All too often the results of the more complicated tests are equivocal and borderline whenever the serum calcium and phosphorus are also equivocal and borderline. Another limiting factor in the chemical diagnostic tests is an apparent intermittent function of the parathyroid tumor.

A careful study of the cases of functioning parathyroid tumor observed at the Columbia-Presbyterian Medical Center reemphasized the variability of the chemical findings, the lack of characteristic general clinical features and the lack of characteristic urological symptoms and findings. The study also emphasized the possibility of occurrence of hyperparathyroid crisis or "hypercalcemic poisoning." A need was evident for earlier surgical exploration and more liberalized criteria for surgical exploration to avoid the potentially fatal outcome of hyperparathyroidism.

CLINICAL FEATURES

From 1932 through 1959, 70 patients with functioning parathyroid tumor were observed at the Columbia-Presbyterian Medical Center (Table 1). Adenomas predominated in this series and in two patients recurrent adenomas were found. There were three carcinomas of the parathyroid gland removed. Two of these were functioning carcinomas, and in one instance a metastatic lesion from the tumor was functioning. The three patients with carcinoma died, two, three and six years after diagnosis, despite radical neck dissection and radiotherapy. Cases of hyperplasia of the parathyroids were excluded from this study.

Female patients predominated in a ratio of three to two and the incidence was highest in the 30 to 60 year old group. The youngest patient was age 11 and the oldest 76 years.

Urolithiasis was a clinical feature in 50 of the 70 patients with functioning tumors. One of the patients with functioning carcinoma had renal calculi and one did not. The time interval from diagnosis of calculus disease to removal of parathyroid tumor was as little as two weeks and as long as 18 years. The average was 5.6 years.

There was no identifiable uniformity of clinical features that could be considered characteristic of cases in which there was a calculus problem. Multiple and bilateral calculi, as expected, were common. All calculi were opaque, but of varying degrees

TABLE 1.—Data on Cases of Parathyroid Tumors Observed at Columbia-Presbyterian Medical Center 1932 Through 1959)

Functioning tumors:	
Adenomas	70*
Carcinomas	2
Non-functioning tumors:	
Adenomas	6
Carcinomas	1

* Includes two recurrent adenomas.

TABLE 2.—Clinical Features of Urolithiasis in 50 Patients with Functioning Parathyroid Tumors

	No. Patients
Recurrent calculi	25
Bilateral calculi	29
Opaque calculi	50
Single calculus	7
Multiple calculi	33*
Nephrocalcinosis	10

* Staghorn calculi in five patients.

TABLE 3.—Operations for Urolithiasis in 50 Patients with Functioning Parathyroid Tumors

	No. Patients
Number of operations:	
None	19
Single	17
Multiple	14
Types of operations:	
Ureterolithotomy	20
Pyelolithotomy	10
Nephrolithotomy	8
Nephrectomy	9
Cystoscopic extraction	2
Cystolithotomy	2

of opacity. Typical nephrocalcinosis was present in only ten patients and in seven patients only a single calculus was present. Staghorn calculi were present in five of the 50 patients with calculi. In general one can state that the urolithiasis varied from simple colic and single stone to extensive calculus disease. (See Table 2.)

Most of the stones were of mixed chemical makeup, but calcium phosphate was common to all the mixed stones, and five of the eight pure stones in the series were calcium phosphate. Two of the other three pure stones were calcium oxalate stones and one was made up solely of uric acid. The patient with the uric acid stone also had gout and it is questionable what relationship the parathyroid tumor played in the calculus disease.

A total of 51 urological operations were performed on 31 of the 50 patients with urolithiasis. In 19 patients with calculus disease and functioning parathyroid tumors, no urological operation was indicated. The multiplicity of operations reemphasizes the magnitude of the calculus problem frequently encountered in patients with a functioning parathyroid tumor. (See Table 3.)

After removal of the parathyroid tumor, 17 patients had no further calculi, and in one patient calcification of the kidney seemed to decrease. Results, however, were not always good. Poor results were mainly due to persistent stones, chronic urinary infection and renal insufficiency. There were nine deaths due to renal insufficiency. In these nine patients an average of 6.2 years elapsed from the time of diagnosis of renal calculi to the date of removal of the parathyroid adenoma, and the post-operative survival averaged 7.4 years.

HYPERPARATHYROID CRISIS OR "HYPERCALCEMIC POISONING"

An extremely interesting clinical entity encountered in this series of seventy functioning parathyroid tumors was hyperparathyroid crisis. There were two such cases. One patient was a 56-year-old woman who died following ureterolithotomy. She was admitted with a ureteral calculus obstructing a solitary kidney. Initial hypercalcemia was noted and parathyroid adenoma suspected, but the pressing urological problem took priority. Seven days after ureterolithotomy the patient became lethargic, which was followed by high fever, oliguria, circulatory collapse, cyanosis and coma. In spite of supportive therapy she died on the tenth postoperative day, at which time serum calcium was 19.4 mg. per 100 cc. At autopsy a parathyroid adenoma with focal necrosis was found. The cause of death was considered to be the toxicity of hypercalcemia plus bacteremia.

A second case of hyperparathyroid crisis was that of a 70-year-old white man with multiple bilateral renal calculi and preoperative serum calcium of 12.5 mg. per 100 cc. A parathyroid tumor was removed from his neck on June 25, 1952. Post-operatively the serum calcium rose, from levels of 12.5 and 14.6 preoperatively, to 17.0 and 18.0 mg. per 100 cc. postoperatively. Oliguria and renal failure developed and the patient died in what seemed to be uremia. At autopsy a 4 cm. tumor was found below the clavicle. It appears that this tumor continued to function and led to death.

The entity of hyperparathyroid crisis is fortunately rare, but its gravity is not sufficiently appreciated. James and Richards⁶ reported a case of hyperparathyroid crisis which was successfully treated by doing an emergency parathyroidectomy. It is reassuring to know that emergency parathyroidectomy can be done if one is faced with this fatal problem. It is apparent that it is potentially dangerous to do a urological procedure in the presence of evidence of hyperparathyroidism. Surgical stress and immobilization seem to be sufficient to precipitate the onset of a hyperparathyroid crisis.

The use of supportive therapy with steroids and the use of a chelating agent, such as EDTA would also be helpful today. An entity such as hyperparathyroid crisis further indicates that there is variation in the action of parathyroid tumors.

CHEMICAL ASPECTS OF FUNCTIONING PARATHYROID TUMORS

Two of the greatest pitfalls in the diagnosis of parathyroid tumors are that the chemical diagnostic tests depend upon normal renal function and apparent chemical indications of intermittent function of parathyroid tumors. Since variable serum calcium and phosphorus levels are rather commonly found, making these tests untrustworthy, we have also pursued other chemical diagnostic tests, as noted previously.

Our experiences with the tubular reabsorption of phosphate test done in the last two and a half years on 60 patients with calculus formation showed 35 results within normal range, 13 borderline low and 12 distinctly low. In five of the 12 with low reabsorption, parathyroid adenomas were found at operation. Parathyroid hyperplasia was present in another patient, and parathyroid cyst in yet another. The remaining five patients were not operated upon. As a rule the results of other chemical tests paralleled those of the tubular reabsorption of phosphate test.

It has sometimes been stated that a skeletal survey is unnecessary if alkaline phosphatase is within normal range. This is not necessarily so. In eight of 70 patients with functioning parathyroid tumors, varying degrees of skeletal changes in demineralization were observed, which aided in the diagnosis of hyperparathyroidism, although serum alkaline phosphatase values showed no abnormality. Three of these patients had typical osteitis fibrosa cystica, and in one of these three the bone changes were so extensive that "osteoblastic exhaustion" was the explanation given for the repeatedly normal serum alkaline phosphatase.

Repeated determinations of serum calcium and serum phosphorus levels remain the most practical tests. In the present series of 70 patients with functioning parathyroid tumors the highest serum calcium levels in individual patients (Chart 1) were from 20.3 mg. per 100 cc. down to 10.6 mg. per 100 cc. In three of the patients the serum calcium levels never rose above 11.2 mg. per 100 cc. In one patient the serum calcium value varied from 9.8 mg. to 11.0 mg. per 100 cc. within a one-month period. In the same period the patient had serum phosphorus varying from 2.2 to 3.2 mg. per 100 cc. and the diagnosis was made on the basis of negative calcium balance studies and skeletal lesions. Several observers have emphasized that elevated serum cal-

SERUM CALCIUM AND PHOSPHORUS VALUES IN 70 PATIENTS WITH FUNCTIONING PARATHYROID TUMORS (PRIOR TO REMOVAL OF TUMOR)

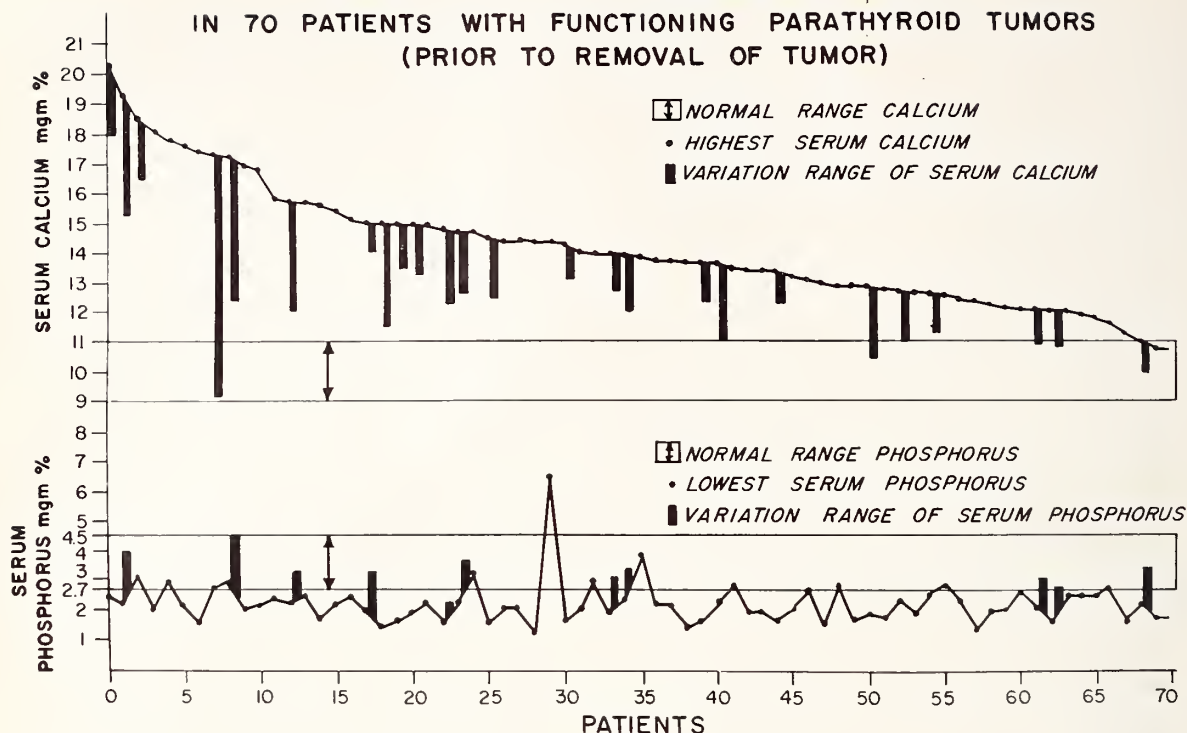


Chart 1.—The upper part of this chart lists the highest serum calcium values for the 70 individual patients with functioning parathyroid tumors and the lower part lists their lowest serum phosphorus levels. (Normal calcium content is 9 to 11 mg. per 100 cc. and normal for phosphorus 2.7 to 4.5 mg. per 100 cc.) Hypophosphatemia was not a consistent finding. Highest serum calcium levels were from 20.3 per 100 cc. down to 10.6 mg. per 100 cc. In three patients serum calcium levels never rose above 11.2 mg. per 100 cc. In five other patients serum calcium was recorded within a normal range during the time they were observed.

The solid bars indicate patients who showed a significant range of variation of chemical values and also the extent of that variation. In 25 patients the serum calcium range of variation seemed to be significant—that is, a rise or fall of greater than 1 mg. per 100 cc. In 11 of these 25 there was also a significant range of variation of the serum phosphorus, a rise or fall greater than 0.6 mg. per 100 cc.

cium is not an entirely necessary criterion for diagnosis of hyperparathyroidism.^{1,2,9}

In 47 of the 70 patients with functioning parathyroid tumors, the serum calcium values showed some degree of variation. In 25 of these 47 the range of variation of serum calcium seemed to be significant—that is, beyond the accepted laboratory error for calcium (rise or fall of greater than 1 mg. per 100 cc.). Eleven of the 25 also showed a significant variation in serum phosphorus (rise or fall of more than 0.6 mg. per 100 cc.). In nine of these eleven, the serum phosphorus sometimes rose to within normal limits. Renal insufficiency, hypoproteinemia or dietary changes did not appear to be factors in these 25 cases, and all values, of course, were before excision of the parathyroid tumors. Significant ranges of variation of serum calcium and phosphorus values were encountered at as little as two-day intervals and as long as two-year intervals. Values both increased and decreased. In five patients the range of variation was from hypercalcemic levels sometimes, down to normal (9 to 11

mg. per 100 cc.) calcium levels. In one patient the serum calcium rose within a four-month period from 9.2 mg. to 17.4 mg. per 100 cc. The serum phosphorus value in this patient varied only from 2.8 mg. to 3.2 mg. per 100 cc.

These variations in the serum calcium and phosphorus values are highly suggestive of intermittent function of the parathyroid tumor. The possibility of finding a parathyroid adenoma even in the presence of normal chemical values also emphasizes the difficulty in making the diagnosis. A provocative test is needed to assure the maximum function of the tumor at the time chemical tests are being done. Also, as noted previously, a method for direct assay of the parathormone would be extremely helpful.

DISCUSSION

Although intermittent function of parathyroid tumors has been previously noted,^{9,10} it has seldom been emphasized. The evidence for intermittent function of parathyroid tumors as seen in this study

can be classed as both clinical and chemical. There are several clinical indications: (1) The occurrence of both functioning and nonfunctioning adenomas and functioning and nonfunctioning carcinomas. (2) Instances of hyperparathyroid crisis or "hypercalcemic poisoning" indicate varying degrees of activities of the tumors. (3) In cases in which the patient is normal for a time after operation and then has "recurrent" adenoma, it is possible the lesion actually is a quiescent adenoma previously overlooked at the initial operation. This of course is speculative, but is another possibility for consideration in explanation of intermittent function. (4) A study of the pathologic features of parathyroid tumors done at Columbia-Presbyterian Medical Center by Kleinfeld⁷ showed no correlation between the size of tumors and the duration of symptoms. With larger tumors usually the serum calcium content is higher, but at times it may be very high with small tumors also.⁴ This suggests differences in growth rates and differences in tumor activity. (5) Intermittent activity is characteristic of other endocrine tumors such as pheochromocytoma and islet cell tumors of the pancreas and should certainly be also characteristic of parathyroid tumors.

This clinical evidence of intermittent function is further substantiated by the previously discussed variations in chemical values (Chart 1). Perhaps a greater appreciation of the quiescent phase of parathyroid tumors will enable us to detect more parathyroid tumors by doing repeated serum calcium and serum phosphorus determinations.

Without more direct methods of evaluating patients for hyperparathyroidism, repeated serum calcium and phosphorus determinations on three

successive days or three times per week at three to four-month intervals are recommended in all patients with opaque calculus or whenever hyperparathyroidism is suspected. In view of the limitations of diagnostic tests today a more liberal attitude toward surgical exploration for parathyroid tumors is recommended to avoid the irreversible renal damage and inevitable fatal outcome if the tumor is not removed.

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Supracondylar Amputation in the Aged

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AMPUTATIONS of the lower extremity have been done for centuries to remove members with severe injury, infection or malignant growths. The ever-increasing life span in recent decades has brought with it more elderly patients with occlusive vascular disease, making this the major indication for supracondylar amputation.

Although many patients with segmental arterial disease are being spared amputation by vascular replacements, by-pass grafts and end-arterectomy, the majority of the patients seen in the San Diego County General Hospital with arterial disease have far-advanced diffuse arteriosclerosis, precluding direct arterial operation.

Supracondylar amputation done on geriatric patients, who frequently have impairment of multiple systems, results in many problems not ordinarily found in younger patients and usually destines them to a wheelchair existence.

MATERIAL

The results of 105 consecutive supracondylar amputations done at the San Diego County General Hospital during the five-year period 1953 to 1958 were reviewed. Ninety-eight of the patients were treated on the general surgical service, and seven patients with severe trauma of the lower extremity were assigned to the orthopedic service on admission. Eighty-eight (83.8 per cent) of the 105 patients were beyond 60 years of age and form the basis of this study.

Each patient was evaluated by history, physical examination and laboratory tests to determine the cardiac, pulmonary and renal reserves as well as the nutritional and metabolic status. Aortograms, peripheral arteriograms, lumbar sympathetic blocks, selective spinal anesthesia, skin temperature determinations and plethysmographic examinations were done in selected cases. Most of the patients had far-advanced arterial disease with gangrene, and in these patients the tests to determine the vascular status were of only limited usefulness, principally confirming the clinical suspicion of need for amputation.

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Presented before the Southern California Chapter of the American College of Surgeons Meeting, Santa Barbara, January 15, 1960.

Submitted May 29, 1961.

• Of 105 consecutive supracondylar amputations done at the San Diego County General Hospital during the five-year period, 1953-58, 88 were in patients more than 60 years of age. Occlusive arterial disease was the reason for operation in 85 of the 88 cases.

Presenting complaints at the time of amputation were gangrene in 45 cases, pre-gangrene associated with severe pain in 34. Acute arterial occlusion as a cause of thigh amputation was infrequent.

The average age of patients requiring thigh amputation from complications of arteriosclerosis obliterans was 78.3 years; for those with diabetic arteriosclerosis or embolism it was about seven and a half years less.

Supracondylar amputation was considered the procedure of choice in the elderly debilitated patients with far-advanced occlusive diffuse arteriosclerosis, complicated by gangrene, ulcer and infection of the toes or feet. Sympathectomy and direct arterial operation if done early in the course of the disease may postpone or prevent subsequent amputation.

The surgical mortality rate (first two weeks) for supracondylar amputation was 12.5 per cent. More than two-thirds of the deaths were due to bronchopneumonia.

In Table 1 are summarized the major complaints referable to the disease leading to amputation. Gangrene, pain and ulcer in a lower extremity were the most common complaints. Other symptoms and signs recorded were cyanosis, cold extremity, claudication, swelling, redness, fracture and numbness.

Primary vascular disease was the reason for amputation in 85 of the 88 patients past 60 years of age; in two cases it was malignant disease and in one, trauma. Of the patients older than 60 years with vascular disease (Table 2), nearly two-thirds had arteriosclerosis obliterans while approximately one-third had diabetic arteriosclerosis. There were four cases of embolism to the femoral artery. Aneurysm resulted in subsequent amputation in three cases;

TABLE 1.—Presenting Complaint Referable to Disease Leading to Amputation in 88 Cases

Presenting Complaint	No. Cases
Gangrene	45
Pain	34
Ulcer	20
Cyanosis	8
Cold extremity	7
Claudication	6
Swelling	5

TABLE 2.—*Nature of Vascular Disease Leading to Amputation*

	Patients
Arteriosclerosis obliterans	49
Diabetic arteriosclerosis	27
Embolism	4
Aneurysm	3

TABLE 3.—*Relation of Kind of Vascular Disease to Age*

Disease	Average Age (Years)
Arteriosclerotic obliterans	78.3
Diabetic arteriosclerosis	70.8
Embolism	70.6
Aneurysm	60.5

TABLE 4.—*Data on Sex and Age of Patients Requiring Supracondylar Amputation*

	No. of Patients	Age Range (Years)	Average Age (Years)
Male	68	24-96	71.7
Female	37	25-100	72.9

two patients had aortic aneurysms and one had a femoral artery aneurysm.

The average age of the patients with arteriosclerosis obliterans was 78.3 years (Table 3), while the average for those with diabetic arteriosclerosis and for those with embolism was more than 7 years younger. Not included in the study are two patients with thromboangiitis obliterans who were 46 years and 54 years old at time of leg amputation. Table 4 shows that males outnumbered females nearly 2:1 in conditions requiring supracondylar amputation. However, the age distribution and average ages were nearly equal.

SURGICAL TECHNIQUE

Lumbar sympathectomy was performed before amputation on six patients in this series.

Luke and Pässler^{2,3} expressed the opinion that selecting the optimum site for lower extremity amputation usually can be determined correctly preoperatively by careful examination supplemented by an investigative program. Although we have found this approach to be helpful, the only dependable finding in our experience is the blood supply as noted at the time of operation.

Since the elderly patients seen in our institution are poor surgical risks, the least traumatic operation requiring the shortest operating time is considered the procedure of choice. Unilateral spinal anesthesia, with a minimum of premedication, is the anesthetic method preferred. No tourniquet is applied at the time of operation.

The skin incision is made to allow equal short anterior and posterior skin flaps. The fascia is

incised near the skin incision level. Muscles are cut at a higher level to permit a conical stump. Blood vessels are ligated with absorbable suture material, and major nerves are cut sharply and allowed to retract. The femur is divided several centimeters proximal to the adductor tubercle, allowing a loose approximation of the muscles, fascia and skin. The wound is liberally washed with 500 to 1,000 cc. of normal saline solution, and hemostasis then is carefully carried out. If hemostasis appears inadequate after considerable effort, placing a drain in the wound is indicated. The skin edges are approximated with steel wire, and pressure dressings are applied, beginning at the groin and progressing toward the end of the stump to support the skin flaps. The initial dressing change is delayed for two to three weeks unless otherwise indicated. If a drain has been used, it is removed on the third or fourth postoperative day without disturbing the main dressing. Sutures are removed two to three weeks after operation.

COMPLICATIONS

Wound infection developed in six cases. Cultures of the material that drained from the wound in those cases grew primarily hemolytic *Staphylococcus aureus*. The infected wounds healed readily when treated with local irrigation, frequent dressing changes and systemic use of antibiotics. A split-thickness skin graft was required in one instance when a stump wound did not heal primarily. Several patients with postoperative atelectasis and pneumonia responded well to therapy, as will be discussed later.

REHABILITATION

More than 90 per cent of the patients were in the hospital 20 days or more. The average number of days in the hospital was 55.0, ranging from 6 to 414 days. One-fourth of the patients over 60 years of age were able to use parallel bars, walkers or crutches before leaving the hospital; however, none could use an artificial leg. Follow-up observations of many of these patients in a nearby nursing home revealed that very little progress in rehabilitation was made after they left the hospital. Attempts by our elderly patients to use prosthetic devices for ambulation met with nearly universal failure.

POSTOPERATIVE DEATHS

Sixteen of the 88 patients past 60 years of age died in the hospital. Eleven of the 16 deaths occurred in the first two weeks following operation (Table 5), eight of them in the first four days, making the operative mortality 12.5 per cent. Bron-

TABLE 5.—Data on Time of Death of 16 Patients in a Series of 88 Over 60 Years of Age Who Died After Supracondylar Amputation

Time After Amputation	No. of Deaths	Mortality Rate (Per Cent)
First Week	9	10.2
First two weeks.....	11	12.5
First month	14	15.9
Overall.....	16	18.2

TABLE 6.—Cause of Postoperative Deaths

Day	Cause of Death	Age	Disease*
First week:			
1	Myocardial failure	72	Embolism
1	Bronchopneumonia	83	Embolism
2	Bronchopneumonia	80	D-AS
2	Bronchopneumonia	79	ASO
3	Myocardial infarction	82	ASO
3	Shock (hemorrhage)	84	Aneurysm
3	Bronchopneumonia	96	ASO
4	Bronchopneumonia	74	ASO
7	Bronchopneumonia	75	ASO
After first week:			
8	Bronchopneumonia	86	ASO
10	Bronchopneumonia	85	D-AS
21	Bronchopneumonia	80	ASO
22	Shock (hemorrhage)	81	ASO
23	Peritonitis	93	ASO
46	Bronchopneumonia	84	ASO
75	Bronchopneumonia	81	ASO

*D-AS=Diabetic arteriosclerosis. ASO=Arteriosclerosis obliterans.

chopneumonia was the major cause of death (Table 6). Two of the four patients who required amputations as a result of embolism to the femoral artery died on the first postoperative day. One patient died of myocardial infarction; and another patient, in whom a vascular graft was done and then a supracondylar amputation, died of irreversible shock due to a leaking abdominal aortic aneurysm. Two patients with diabetic arteriosclerosis died of bronchopneumonia, one on the second, and one on the tenth postoperative day. Shock from a bleeding gastric ulcer was the cause of death of one elderly patient. A 93-year-old woman with arteriosclerosis obliterans died of peritonitis six days after laparotomy for a ruptured appendix, which occurred 17 days after amputation.

DISCUSSION

Most of the elderly patients in the series had far-advanced vascular disease affecting multiple systems. Many of them had pronounced mental impairment as well as cardiac, renal and pulmonary disease. Before 1953, attempts were made to do more limited amputations in patients of this type but the high incidence of failure discouraged this course of action. Certainly, no patient should be subjected to supracondylar amputation if there is

any reasonable hope of preventing amputation or of succeeding with a more limited procedure. Lumbar sympathectomy, if done early in the course of occlusive arterial disease, will improve the circulation to the lower extremities and may postpone or even prevent the necessity for amputation. Direct vascular operation, when feasible, is obviously preferable to amputation.

Preoperative preparation should include efforts to improve nutrition, hemoglobin value and serum protein levels. Decreased cardiorespiratory and renal reserves should be recognized preoperatively and respected during and after operation. Good hemostasis and loose approximation of tissue are necessary for primary wound healing. The line of incision, which is located across the central portion of the end of the stump at the completion of operation, usually is found to have migrated posteriorly three weeks later when the initial dressing is removed. The delay in dressing changes and suture removal is important in avoiding wound complications in situations characterized by compromised circulation. The wounds that become infected usually heal readily when treated with local irrigation and systemic administration of antibiotics if there is an adequate supply of blood.

Approximately 75 per cent of the elderly patients who have supracondylar amputations because of arterial insufficiency cannot be rehabilitated. Only an occasional one will be able to master a prosthetic leg, and the rest eventually will use wheelchairs, walkers or crutches.

There has been a progressive decrease in the mortality rate for supracondylar amputation, from 25 per cent in the decade of the 1930's to 6 per cent by 1951, as reported by Shumaker and Moore.⁴ The surgical mortality rate for this operation on elderly debilitated patients with arteriosclerotic gangrene and infection in the San Diego County General Hospital in the period 1953-58 was 12.5 per cent. The resurgence of resistant strains of bacteria since 1951, as noted by Flynn¹ in reviewing the incidence of hand infections at the Boston City Hospital, undoubtedly bears some relationship to the present mortality rate.

Bronchopneumonia, which occurs frequently in elderly patients during the period of immobilization after major lower extremity amputation, is the major cause of death. Preoperative measurement of total and timed vital capacity, as well as determination of maximum breathing capacity before and after administration of bronchodilator drugs, will indicate which patients are likely to have respiratory difficulties after operation. Patients with dyspnea and coughing on moderate exertion are considered very poor surgical risks. Placing the patient in the semi-Fowler position after operation

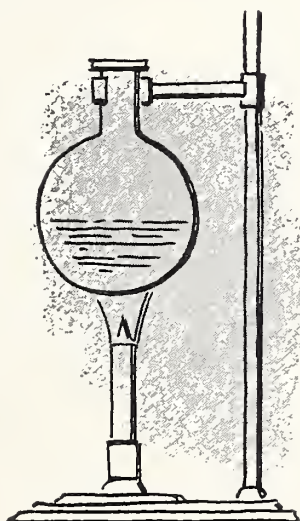
and encouraging him to change position and to breathe deeply and cough frequently, help prevent hypostatic pneumonia. Deep endotracheal suction and intermittent positive pressure breathing with administration of bronchodilator drugs and wetting agents should be employed at least four times a day for the first two or three days postoperatively. Oral hygiene, adequate hydration and the use of expectorant agents improve the character of the mucus so that it is more easily removed. If endotracheal suction is impossible and there is any suspicion of respiratory difficulty, tracheostomy should be

done. Antibiotic therapy should be instituted as soon as respiratory infection is evident.

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Failure of Proteolytic Enzymes to Suppress Post-Traumatic Inflammation

Double-Blind Control Comparison on Identical Twins, After Dermal Abrasion

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THIS IS THE FIRST controlled study demonstrating that systemic proteolytic enzyme therapy does not improve or modify posttraumatic edema, inflammation or speed of healing. Identical twins were subjected to an identical, severely traumatic surgical procedure (dermal abrasion of the face) at the same time. All surgical and postsurgical variable factors were made as similar as possible. One twin received maximum therapeutic dosage of three proteolytic enzymes for one week after operation. The other received an inert vitamin. Careful comparison revealed no discernible difference in postsurgical course.

Proteolytic enzymes have been widely reported to reduce inflammation, and cause resorption of edema. This is said to stop pain immediately, and to speed healing. Dramatic serial color photographs of traumatic injuries fill lavishly lithographed promotional material sent to physicians. The enthusiastic articles which testify to their effectiveness in human beings are uncontrolled.^{5,6,7,8} Animal experiments, well controlled, prove beyond cavil the anti-inflammatory effect of proteolytic enzymes.⁴ However, in these experiments the quantities of enzyme used were exponentially larger than recommended for human use—from ten to over one thousand times the maximum human therapeutic dosage.⁴ Moreover, these quantities were given before production of the inflammatory response—not after, as in a clinical case. Hence the fibrin and other insoluble aggregates that subsequently form in an inflammatory zone incorporate enough proteolytic enzyme to speed their resolution. Such animal experiments are not at all analogous to the human clinical situation.

VARIABLES IN RESPONSE TO TRAUMATIC INJURY

For proper evaluation of the effect of proteolytic enzyme therapy on the postsurgical course of human patients three sets of variables must be considered:

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• Controlled reports on the successful use of proteolytic enzymes to suppress post-traumatic inflammatory response have been based on animal subjects that were given the drug before inflammation was provoked and in the equivalent of 10 to 1,000 times maximum human dosage. All previous favorable reports on human subjects were based on uncontrolled experiments.

In the present study, the first controlled human experiment, identical twins were identically treated with dermal abrasion of the face, to remove deep acne scarring. Using double-blind technique, one of them received "inert" parenteral and buccal vitamin medication. The other received maximum recommended therapeutic dosage of three proteolytic enzymes—streptokinase and streptodornase buccal tablets, and intramuscular trypsin. No differences in edema, inflammatory response, pain or speed of healing were noted.

1. *Type and Extent of Injury*: Traumatic injuries in humans are usually accidental and randomly inflicted. The resultant inflammatory response and healing vary according to the degree, depth and extent of damage. Injury can rarely be standardized enough for comparison between cases. Animal experiments utilize graded tissue insults, such as injection or implantation of irritants. Such provocative tests can be well standardized.

2. *Extrinsic Variables*: Widely variable in human patients are such factors as age, nutrition, the degree of tissue damage by previous or concurrent disease or by previous sun exposure, x-ray therapy and the like. They can easily be minimized in animals by use of litter mates brought up under identical conditions.

3. *Intrinsic Variables*: What may be called "inherent tissue diathesis" embraces such factors as the individual immunity, regenerative power, type of protoplasm, type of connective tissue, capillary fragility, keloiding tendency, autogenous allergy and response to infecting organisms. Subject to wide disparity in humans, they can easily be equated in animals by the use of homologous strains and a larger number of test subjects.

In the treatment of twins with dermal abrasion for the smoothing of acne scars the author had opportunity to resolve these variables for an evaluation of the effect of proteolytic enzymes on human subjects.

In dermal abrasion (plastic planing) the acne pitted face (4 to 5 per cent of the total skin area) is fixed to woody hardness by solid freezing of small areas with Freon 114 spray. While each area is frozen solid, the entire epidermis and upper third of the cutis in the area is ground away with a steel brush cutting head, revolving at 14,000 revolutions per minute.

After doing 5,000 planings, I believe my technique is standardized to a high degree. The amount of surface treated (for example, the full face) and the depth of abrasion can be closely duplicated from one patient to the next, which provides a means of quantitative and qualitative control of variables for purposes of comparison. Inflammation after planing is severe, as after any extensive abrasive injury, such as deep "skinning" of an elbow or knee. The second through the fourth days after the operation, edema is often so extensive as to swell shut the eyes. Healing, with dropping of the crusts, usually takes eight days.

As to extrinsic and intrinsic variables in human subjects, in preliminary controlled comparisons of many patients, I found I was not able to pick out by inflammatory response (or lack of it) which patients had received proteolytic enzymes. However, I considered it possible that beneficial effects of the enzymes were masked by some of the extrinsic and intrinsic variables already mentioned.

The new science of gemellology, the study of twins, suggested a perfect control, since in any twins who had always lived together in the same environment, all extrinsic variables are equated. Monozygotic (identical) twins are genetically the same person. This genetic identity equates intrinsic variables. When a pair of identical twins were referred to me for plastic planing, these facts were used to set up a controlled evaluation of proteolytic enzyme therapy.

REPORT OF CASES

The patients were 26-year-old white women, registered nurses, who had lived as inseparable companions in the same environment since birth. In their early teens, both had severe acne simultaneously. An identical gamut of conventional therapy—local medications, surgical drainage, ultraviolet light, vaccines and the maximum allowable amount of x-ray treatment had been tried simultaneously on both, without significant improvement. When first seen by me, the two women were not only identical

in appearance of face and figure, but even in the severe irregular pitted postacne scars on their cheeks, foreheads, chins and necks. They had identical severe multiple, large, almost confluent, deep sebaceous cysts on the face, neck and retroauricular regions, widespread coarse comedosis, and secondary infection in scattered, deep, large pustular cystic lesions, all superimposed on severe seborrhea of the face.

Both were prepared for operation by giving them, an hour before the procedure, identical oral dosage of dextro-amphetamine, 10 mg.; amobarbital, 60 mg.; phenobarbital, 60 mg.; acetylsalicylic acid, 650 mg.; meperidine (Demerol®), 50 mg.; meprobamate, 400 mg. The planing operation on the second patient was done 20 minutes after the first. Planing extended vertically from the anterior scalp hairline over the entire face and anterior neck to the level of the cricoid cartilage, and from the midline of the nose to 5 cm. lateral to the angles of the mandibles. Because scarring was very deep, planing was very deep. Initial heavy planing was done with an abrasive serrated steel cutting head. Uneven residual scarred or pitted areas were then "feathered out" peripherally with further planing, and visible high areas were ground down to produce optimum flattening. All junctions of planed and unplaned skin were "feathered out" lightly with a diamond fraise. The thin skin on the lower eyelids was planed with this instrument.

Continuous Freon 114 (Frigiderm®) freezing was done by an assistant, just ahead of the planing brush. Simultaneously trichlorethylene (Trilene®) inhalation anesthesia was self-administered by the patient. Anesthesia and patient cooperation were excellent.

I tried consciously to equalize the degree of planing, the instrument used, the degree of freezing and all other variables. This was made easier because the lesions were closely duplicated in the two patients. At the periphery of the involved areas around the sides of the neck and laterally over the jaws, acne cysts were sparse enough for a pattern to be discernible. After the planing had been done on one patient, it could be predicted where the second would have cysts of the steatocystoma type that were not visible on surface inspection.

As a final check, to prove that the two patients were indeed monozygotic twins and not superficially similar dizygotic siblings, a 5 mm. punch skin graft was taken from a pitted scar below the ear lobe on each patient, and inserted in the donor site of the opposite patient. There was mutual acceptance of the reciprocal grafts, with no graft rejection after 18 months follow-up. This is considered the most absolute proof of monozygosity.

CHOICE OF PROTEOLYTIC ENZYMES FOR TESTING

Trypsin was selected as the primary therapeutic enzyme. It acts by breaking peptide linkages on carboxyl groups of arginine and lysine.⁵ Although it has produced severe, even fatal, anaphylactoid shock,^{1,9} it is considered about three times as effective as chymotrypsin.² (Until recently considered incapable of producing anaphylactoid shock, chymotrypsin was used extensively despite its relative ineffectiveness, but late reports indicate that it can produce severe anaphylactoid shock, including permanent brain damage.^{2,3})

As a secondary enzyme preparation, a mixture of streptokinase and streptodornase buccal tablets was selected, since its mode of action is entirely different from that of trypsin. On internal administration, streptodornase is inactive. Streptokinase activates blood plasminogen to plasmin. Plasmin acts to lyse fibrin.⁵

It seemed that maximal therapeutic dosages of these highly touted enzymes should surely produce discernible improvement to justify the considerable risk of allergic reaction to them.

DOUBLE-BLIND PLACEBO CONTROL THERAPY

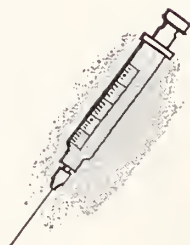
As soon as operation on the second twin was completed, an attending nurse was told to determine by flipping a coin which twin would get proteolytic enzymes. That twin was given crystalline trypsin solution containing 5 mg. per cc., 2 cc. to begin with and then 1 cc. once daily, intramuscularly. In addition buccal tablets, each containing 10,000 units of streptokinase and 2,500 units of streptodornase (Varidase buccal®) were given on a schedule of 2 tablets four times daily. The other twin was given the same volume of crude liver parenterally, and

vitamin A buccal tablets on the same dosage schedule. I gave identical instructions for dissolving the buccal tablets under the tongue. I did not know which twin received the enzymes—and still do not. The patients were not told that there was any difference in their therapy. I observed and photographed their postoperative course. Not I or the patients or the attending nurse could see any discernible difference in speed of healing, or degree of swelling. Both patients had identical severe inflammation and postsurgical edema. In both cases the crusts fell off at the same time—eight days. There was no subjective difference in pain.

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Ascariasis

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WHAT WITH INCREASES in travel and migration by many people, physicians anywhere in the world may encounter patients with symptomatic ascaris lumbricoides infestations.⁶ Obscure complaints referable to the abdomen or the respiratory tract may be the presenting symptom or, less commonly, severe complications such as intestinal obstruction bring the patient to attention.

The authors are able to illustrate a variety of manifestations from their own observations. In addition a comprehensive review of the literature has been made. From these sources came the present report of a considerable number and variety of conditions that may be produced by this parasite.

The Life Cycle

Female adult worms deposit thousands of ova which are passed in the feces of the human host. These ova are extremely hardy and may survive three or four years in moist soil. They may live through freezing temperatures. A moist, warm environment is most favorable for the embryo larva to develop. When it has grown to about a quarter of a millimeter in length, it is infective to a human host. Usually development to that size takes about a month but under highly favorable conditions may be accelerated to about ten days.

Upon ingestion by the host the larvae pass to the small intestine where they penetrate the bowel wall to enter the mesenteric lymphatic chain and venules. They continue on to the right heart by way of either the lymphatic system or the portal vein and the liver. They then pass into the pulmonary circulation and penetrate the walls of the capillaries to enter the alveoli. They remain in the alveoli for about ten days and then ascend the bronchial tree and enter the esophagus to return to the small intestine. By that time they have grown to 2 to 3 mm. in length. After about eight or ten weeks they attain maturity and reproduce, fertilized ova then again being passed in the feces of the host. At this stage the round worm is from 15 to 40 cm. long and 3 to 4 mm. in diameter. The males are smaller than the females.

With massive infestations the larvae may be disseminated through the left circulation.³⁶

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Submitted April 6, 1961.

• Ascaris infestations may be found in California, particularly in patients who have migrated from endemic regions. Clinical manifestations include vague abdominal pains, unexplained fever, anemia, malaise and upper respiratory tract infections. Intestinal obstruction and infections are among the severe complications that can occur. Diagnosis is made by the observation of worms or ova in the feces, and occasionally by roentgenographic manifestations.

Pathogenesis^{21,48,56,63}

Ascaris lumbricoides produces disease in man in the following general ways: (1) Mechanical; (a) worms have a predilection for small passages, which they may obstruct, (b) a number of worms may combine to form a bolus which may obstruct a larger passage such as an intestine and (c) a worm or worms may act to initiate an intussusception or volvulus; (2) the worm may produce a toxic substance or allergen; (3) the worm may transmit infection by transporting bacteria from place to place; and (4) worms may penetrate the intestinal wall (or that of other hollow visci) and enter the peritoneal or other cavities.

Clinical Manifestations

The clinical manifestations of ascariasis have been reviewed by Swartzwelder.⁵⁹ He studied 202 symptomatic cases. Over 84 per cent of patients were 15 years of age or less. Males and females were affected equally. The incidence was less in the Negro than in the Caucasian population. Swartzwelder listed symptoms in the following order of frequency: Abdominal pain, passage of worms, vomiting, abdominal or epigastric tenderness, fever, constipation, abdominal distention, cough or cold, nausea, headache, diarrhea, convulsions, abnormal pulmonary findings, anorexia, loss of weight, weakness, malaise and restlessness. One hundred and thirty-three patients of the 202 studied passed worms before vermifuges were administered—95 in the stools, 35 in vomitus and four through the nares.

Intestinal obstructions were present in 13 cases, in six of which the patient died. Abdominal masses may be palpable when obstruction occurs due to a bolus of worms. The masses are of a doughy consistency.⁴¹



Figure 1.—X-ray film in the case of a two-and-a-half-year-old white boy admitted for head and possible abdominal injuries. There was no history of gastrointestinal disease. The patient passed an ascaris worm per rectum while in the hospital. This anteroposterior film of the abdomen shows a worm in the small intestine made visible by the contrast afforded by air in the bowel.

Keller and coworkers²⁷ found grinding of the teeth two to three times more common in children infected with ascariasis than in a control group.

New Material

Fifteen patients with proven ascariasis have been examined in the Radiology Department of the Harbor General Hospital during the past nine years. This parasite is not common in Los Angeles; nine of the patients had moved recently to Los Angeles from more or less endemic areas.

Twelve of 15 patients were under ten years of age. There were eight females and seven males. All were Caucasians.

Seven were asymptomatic and eight had symptoms. Three patients passed worms while in hospital for the treatment of fractures. Four had signs of a respiratory tract infection, two had symptoms of respiratory tract disease with accompanying vague abdominal complaints, and two had abdominal symptoms only.

In 14 cases the diagnosis was established by passage of the worms and in one by observation of ascaris lumbricoides ova in the feces. Eleven patients passed worms by rectum (one of them through the nares also); two coughed up or vomited worms, and one passed a worm through a biliary "T" tube.

None of the patients had serious complications. In some instances the confirmed diagnosis served

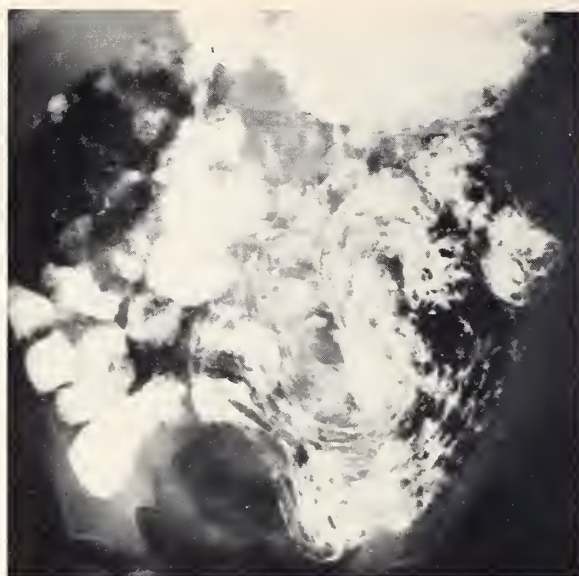


Figure 2.—X-ray film of small intestine of a three-and-one-half-year-old white girl admitted with a fractured femur. She had a cough due to an upper respiratory tract infection but no gastrointestinal symptoms. She had passed ascaris per nares and per rectum. The small intestine study with a barium meal shows multiple curvilinear and several round or oval translucent filling defects in the contrast medium due to barium displacement by the worms.

to explain symptoms that had been either puzzling or incorrectly attributed to other causes.

Laboratory Studies

Eosinophilia may be present, but in a number of cases is either not striking or is absent. In all the 15 cases observed by the authors blood cell counts were done, and in five cases eosinophils made up over 5 per cent of leukocytes.

Diagnosis is established by observing the worm in the feces or finding ova in a stool specimen.

Larvae may be found in the sputum of patients with pulmonary ascariasis.^{7,52,60}

Microscopic identification of mites and ova of the various parasites in histologic material has been reported by Moore.³⁶

Radiology

Roentgenographic evidence is most likely to be seen if the infestation is in the abdomen, particularly in the small intestine. Although there may be roentgen evidence of ascariasis in the pleura or the respiratory system, it is not specific, as the etiologic agent cannot be identified.

The roentgenographic manifestations can be divided into two major groups, those produced directly by the parasite, and those secondary to the complications brought about by the obstructive, allergenic, toxic or bacteria-carrying properties of the parasite.

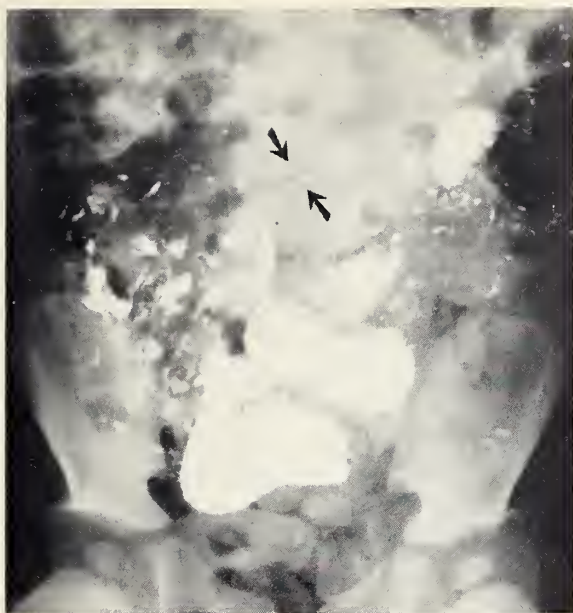


Figure 3.—In the case of a three-year-old white boy who had no symptoms but passed *ascaris lumbricoides* per rectum, this x-ray film after barium meal shows a worm partially coated with barium.

The worm or worms may appear on x-ray films as linear tissue densities contrasted with the intestinal gas content⁵¹ (see Figure 1). A bolus of worms may appear as "a tangled thick cord."²⁵ Parasites may appear as smooth, regular filling defects, sometimes with pointed ends, within the contrast-filled lumen of a hollow organ such as the small intestine. These defects may be linear, curvilinear, coiled, round or oval. In the last two the worm is being seen "en face." The linear defects are from 2 to 40 cm. long and from 4 to 8 mm. wide.* (See Figure 2.) The parasite may be rendered visible by barium coating its walls¹⁴ (Figure 3). The intestinal canal of the worm may appear as a fine linear streak^{14,37,20} due to the contrast media it has ingested (Figure 4). In some instances this will appear as a thin line of barium density up to several centimeters long and about 1 mm. wide. A filling defect about 2 to 4 mm. wide may at times be seen on each side of the visualized intestinal tract of the worm, resulting from the displacement of barium by the body of the worm.

Barbieri,⁵ Lenarduzzi²⁹ and Strang and Warrick⁵⁷ reported changes in motility, spasm, irritability and segmentation of the barium column.

Francke¹⁶ and Loftstrom and Koch³⁰ reported they were unable to demonstrate such changes. In both instances the reports were based on study of 100 infested patients.

The foregoing are the keys to the radiologic recognition of ascariasis as such. The roentgenographic

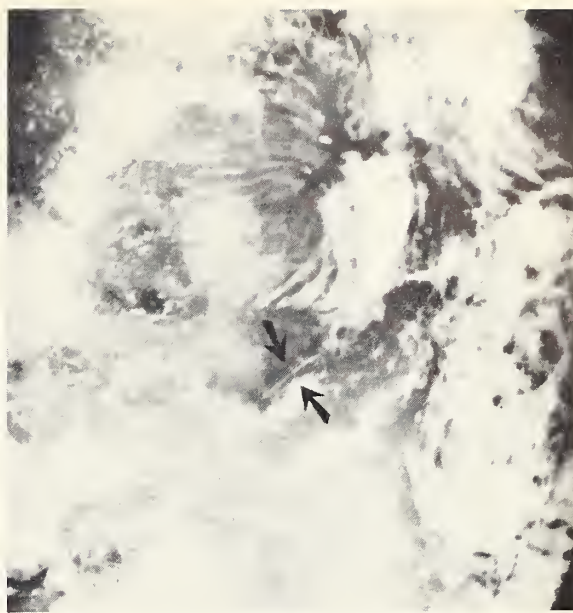


Figure 4.—The patient was a seven-year-old asymptomatic white boy who had passed *ascaris lumbricoides* per rectum. In this film, taken after barium meal, the linear barium density in the small intestine is caused by the filling of the worm's gastrointestinal tract with barium.

changes that are secondary to complications are those of the complication, and those that are caused by worm infestation will be suspected only if there is a history of worms, or a stool examination is positive for ova or worms, or if there has been a roentgen demonstration of worms in addition to the secondary changes.

Pulmonary changes^{60,64,65} that have been reported roentgenographically observed in association with ascari infestation are increased bronchovascular markings, prominent lung roots and parenchymal densities, generally small, soft and sometimes fleeting. The general character is that of Loeffler's pneumonia although a variety of descriptive and diagnostic names are given to these changes.

Other findings described are empyema;^{26,35,36} coin lesions, granulomatous in nature;³⁶ lung abscess;³⁵ atelectasis due to bronchial obstruction secondary to ascariasis in the bronchial tree;³¹ and thrombosis of the pulmonary artery.⁸

Olson⁴² attempted to implicate ascariasis as a cause of pulmonary calcifications by virtue of similar geographic distribution of the two conditions. His study embraced an area in which histoplasma is now known to be prevalent. It remains to be established that ascariasis is a cause of pulmonary calcifications. The presence of granulomatous lesions makes it probable that ascariasis could be responsible for pulmonary calcifications, but the actual occurrence should be rare.

In the cases observed by the authors, roentgen

*References 3, 15, 16, 17, 20, 30, 45, 50, 51.

examination of the lungs showed nonspecific or equivocal changes or no abnormalities of a suspicious nature.

COMPLICATIONS

The following complications have been reported. (1) *Ascaris* have been found in the following locations: Heart,¹⁰ lungs,^{31,35} pleural cavity,⁴⁶ pancreatic ducts,¹³ bile ducts,¹ gallbladder,³⁸ liver,⁴ Meckel's diverticulum,⁴¹ appendix,³⁷ peritoneal cavity,⁴⁹ uterine tubes,³⁹ urinary bladder,¹² and mastoid.⁵³ (2) The following organs have been obstructed by the parasites: The small intestine, by a bolus of worms,^{2,32} by intussusception³³ and by a volvulus;⁶² the colon, by adhesions produced by cholecystitis associated with *ascaris* in the gallbladder;⁹ the pyloric canal of the stomach, by a bolus of worms;⁶¹ the larynx, by a bolus of *ascaris*;¹¹ bronchus, by a single parasite;³¹ pancreatic ducts;⁴⁰ and bile ducts.¹⁸ (3) Perforations have been reported in the following locations: Small intestine,⁴⁹ stomach,³⁶ esophagus,³⁶ liver abscess,³⁴ uterine tubes,²³ bile ducts¹ and gallbladder.⁴³ (4) Infections have been associated with *ascaris* migrations to the following sites: Peritoneal cavity,⁴⁹ uterine tubes,⁵⁴ liver,³⁶ pancreas,⁴⁶ appendix,³⁷ and gallbladder.⁶⁷ (5) Infections with abscess formation associated with *ascaris* infestations have been reported in the following locations: The pleural cavity,²⁶ lung,¹⁰ subphrenic area,³ tubo-ovarian,⁵⁴ liver⁶⁶ and pancreas.³⁶ (6) Infections with granuloma formation have been found in the lung³⁶ and peritoneal and mesenteric tissues.³⁶ (7) Manifestations secondary to hypersensitivity reactions, such as eosinophilic ileitis, eosinophilic pneumonic reactions³⁶ and meningitis,³⁵ may be in this category.

Technique of Radiologic Examination

For roentgenographic examination it is desirable to have the patient fasting, as this will increase the probability of the parasites' ingesting barium and thus being demonstrated by the visualization of its intestinal tract.³

Most investigators have used serial films.³ The intervals between films have varied from every 15 minutes to approximately one film an hour. Twenty-four and 48-hour films may show a barium residue in the gastrointestinal tract of the worm.

Fluoroscopy with compression, advocated by Francke,¹⁶ would be expected to improve the diagnostic yield.

Extensive radiologic diagnostic effort would appear indicated only when usual methods of stool examination and history of passing worms have failed to establish the presence of the parasite in a case in which there is valid ground for entertaining this diagnosis.

Male or immature female parasites may be present in the intestine of the host and be unrevealed by stool examinations for ova.²⁴ If no worm is passed, the diagnosis will remain unsuspected. Roentgen findings may on such occasions give valuable diagnostic information.^{16,22,28,57}

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Uroflometry in Urological Diagnosis

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THE RECORDING UROFLOMETER has become a valuable aid in urological practice. It has been used and perfected during the last eight years at this center, and the present model which is commercially available is used in a number of urological centers.

The uroflometer measures the rate at which urine is voided through the urethra. The need for such an assessment of voiding performance has long been recognized. In 1932, Ballenger¹ suggested measuring the distance a man could project his stream as an aid in measuring the degree of prostatic obstruction. In 1948, Drake² described a uroflometer to aid in the study of lower urinary tract. Drake's original uroflometer operated on the principle of a scaled recording of the weight of urine passed in a given time. However, his apparatus was cumbersome and did not become commercially available. He subsequently devised a uroflometer of another kind, which has been produced commercially. This model has overflow outlets at different levels, each overflow outlet leading into a separate compartment.

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Submitted April 14, 1961.

• The automatic recording uroflometer is a simple office instrument which provides an objective record of the rate of voiding. It has proven value as a diagnostic aid in the evaluation of obstructive lower urinary tract problems and in neurotic bladder disorders. Differential uroflometry is used to make relative appraisals of the forces of expulsion of urine and of resistance to the flow of urine through the urethra. It is accomplished by measuring urine flow rate through a catheter of standard size and by comparing this with urine flow rate through the urethra. When used in conjunction with other diagnostic methods, uroflometry adds to the accuracy of urological assessment of a patient.

By observing which compartments contain urine after voiding, the maximum rate can be ascertained.

The Kaufman uroflometer^{5,6} has certain advantages which make it practical for routine use in the office. A compact single unit with durable parts, it measures 10x10x7 inches and weighs less than 9 pounds (Figure 1). A small electric motor drives a rubber wheel which propels the recording chart at a constant rate through a slot in the rear of the housing. The patient voids into a detachable funnel which directs the urine into a metal beaker sus-

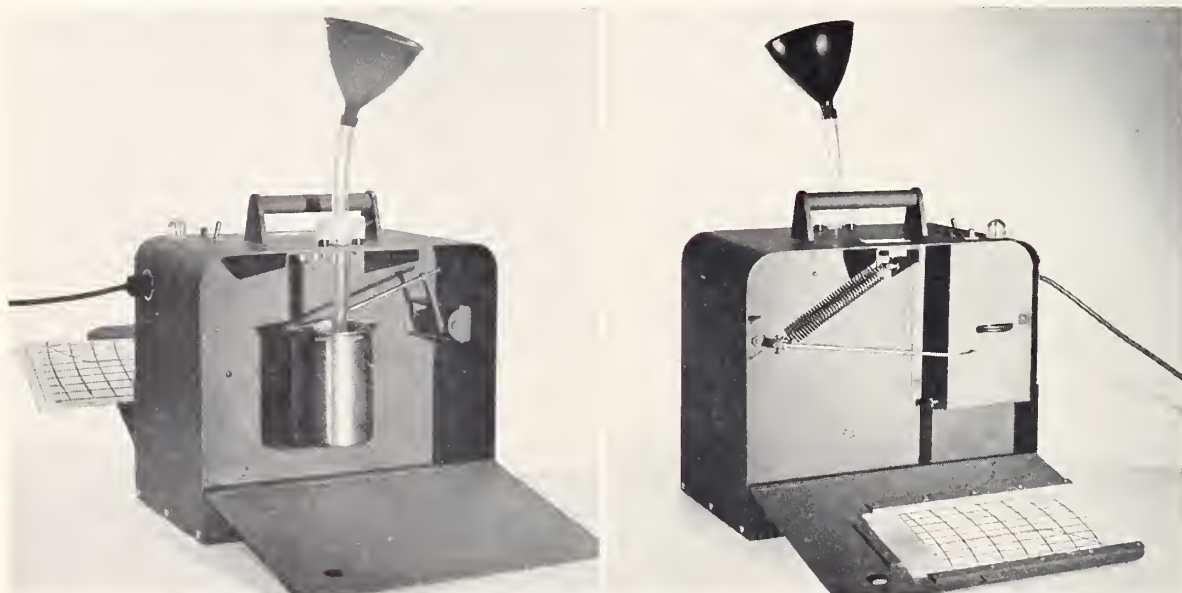


Figure 1.—Photographs of Kaufman Uroflometer from front and rear. Patient voids into funnel which directs urine into beaker suspended on arm. Descent of beaker is transmitted by coil spring to writing stylus. Card in slot of rear door is propelled by rubber wheel which is put into motion when urine running through plastic tubing into beaker closes circuit between two fine wire electrodes.

pended on a lever. The weight of the voided urine in the beaker is transmitted by a coil spring to a recording stylus which inscribes a graph on the chart as it is propelled. The charts are printed with ordinates representing 10-second time intervals and with abscissae representing 50 ml. volume increments (weight of urine converted to volume on card). A ball point pen makes a recording on a card which becomes a permanent record for reference.

The motor in the uroflometer automatically drives the chart when urine (containing electrolytes) passes through the inflow tube, contacting two electrodes and closing the electrical circuit. This permits the patient to have privacy during micturition, thereby removing embarrassment as a possible factor in the test. When a measure of the degree of hesitancy is desired, the motor can be started by a separate switch and the time lapse before the initiation of voiding curve can be recorded. Figure 2 shows the voiding curves of a normal male and of a patient with obstructing prostatic enlargement. In the normal uroflogram the tracing forms an abrupt decline, terminating sharply when voiding ceases. With obstruction, there is lengthening of the curve, intermittency and slow termination of voiding. The maximum flow rate is determined by superimposing a transparent tinplate (Figure 3) over the greatest declination of the voiding curve. A voided volume of over 150 ml. and preferably over 200 ml. is necessary for a valid record of the voiding rate.

In the past eight years over 5,000 recordings have been made on normal patients and patients with lower urinary tract abnormalities. In addition, uroflometric observations in 1,000 public school children were made by Fetter, Drake and Perez.⁴ On the basis of these studies, normal values for adults and children have been obtained. Females normally void at a faster rate than males in all age groups. Normal adult females void at a maximum rate of between 20 and 40 ml. per second with a mean of 30 ml. per second but with an average of 31.4 ml. per second compared with the average of 28.0 ml. per second for adult males. Boys between the ages of 6 and 12 void at a mean rate of 25.3 ml. per second, whereas girls in this age group void at a mean of 28.1 ml. per second.

Differential uroflometry is used to dissociate the factors of bladder function and adequacy of the outlet. This work was originally described by Shields, Baird, and McDonald.¹⁰ The author routinely uses differential uroflometry in assessing bladder function and infravesical resistance. The patient's ability to void through a standard bladder outlet is determined by inserting a catheter of standard size and recording the effective bladder force by means of urine flow rate through the catheter. This represents the patient's potential ability to void

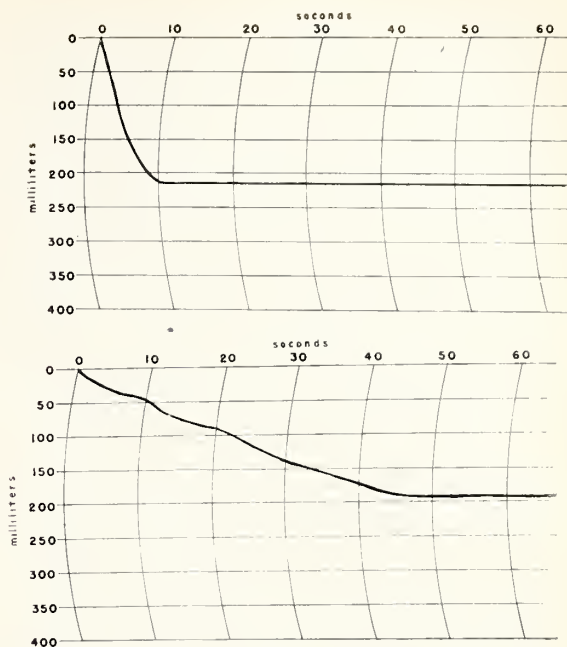


Figure 2.—Above: Normal voiding curve (uroflogram) showing maximum voiding rate of 26.6 ml. per second. Note sharp decline and direct termination. Below: Voiding curve of patient with urethral obstruction secondary to benign prostatic enlargement. Note gradual decline, maximum voiding rate of 5.3 ml. per second, slow termination.

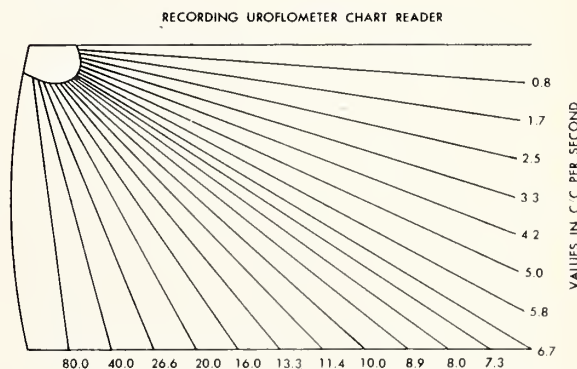


Figure 3.—Transparent tinplate for reading maximum voiding rate.

in the absence of obstruction (curve A, Figure 4). When this is compared with the patient's ability to void in the normal manner, without a catheter (curve B, Figure 4) the effect of the obstructive factor on the urine flow rate can be determined.

The force with which urine is expelled from the urethra is the sum of detrusor contraction, position and intra-abdominal pressure. The rate of micturition is the sum of these factors minus the resistance offered by the urethra and its constrictive diseases.

The method now used for differential uroflometry is as follows: After the patient has voided, a catheter is inserted to draw off residual urine, which is measured. A No. 20F straight red rubber catheter is

used; the average flow rate through a tube of this size is approximately 20 ml. per second. Through this catheter 250 to 300 ml. of sterile saline solution is instilled into the bladder and the patient is then instructed to void in the standing position through the catheter into the uroflometer. A tracing is made (Figure 4, tracing A). Then a similar amount of saline solution is reinstalled, the catheter is removed and the patient again is instructed to void into the uroflometer (Figure 4, tracing B). The disparity between the amount of solution instilled and the amount voided without the catheter is recorded as the "residual by difference" and in most cases correlates with the original residual determination.

A typical patient with infravesical obstruction (for example, prostatic enlargement) voids at a slow rate. With normal bladder function, through a No. 20F straight, rubber catheter, a patient may deliver a maximum of 20 ml. per second. A comparison of these tracings demonstrates the degree of obstruction produced by the infravesical resistance.

The typical patient with hypotonic bladder musculature may void at an impaired rate both through the catheter and through the urethra, as shown in Figure 5. In this tracing it is evident that the expulsive force is decreased, and it is unlikely that any measures directed solely to the urethral resistance will have any great effect on the voiding rate. With this information a prediction can be made as to which patients would benefit from removal of the infravesical obstruction and which would not.

INDICATIONS FOR UROFLOMETRY

Prostatic Enlargement. In enlargement of the prostate, whether benign or malignant, the voiding rate is usually affected as one of the early manifestations of urethral compression. This usually happens before the amount of residual urine is significant. Enlargement of the prostate usually occurs insidiously, and the patient is often unaware of the degree of impairment of voiding. A "slow stream" is a relative term which is difficult for both the patient and the urologist to evaluate. Urologists have been in the habit of observing the patient's voiding, but this is at best a poor method of assessing the degree of obstruction, since most patients cannot void well while the act is being witnessed. Uroflometry provides a permanent record of the patient's voiding pattern and eliminates the subjective interpretation of both the patient and the urologist. Since prostatectomy is unlikely to improve the symptoms of frequency, urgency and nocturia in a patient with residual urine of 60 ml. or less but will often improve the slow, thin or hesitant urinary stream, the need for a relative method of determining impairment in voiding is obvious. Postoperatively, the uroflometer provides an objective record of the degree

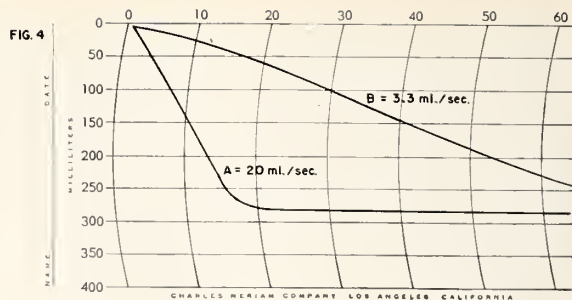


Figure 4.—Curve A shows the patient's ability to void through a No. 20F catheter (measures detrusor and abdominal force without urethral resistance). In this instance the voiding rate was 20 ml. per second. Curve B shows the patient's ability to void naturally. Difference in the voiding rate indicates degree of urethral resistance (compression). The maximum rate here is 3.3 ml. per second.

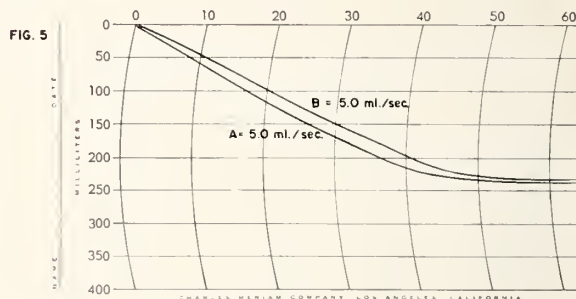


Figure 5.—Voiding rates of patient with lower motor lesion (atonic bladder). A represents voiding through a No. 20F catheter; B represents voiding after the bladder has refilled and the catheter has been removed. Similarity of the uroflograms indicates absence of significant obstructive urethral resistance.

of benefit achieved. Similarly, it may be used as a guide for the necessity of postoperative urethral dilatation or as an indication of incomplete resection. Figure 6 shows preoperative and postoperative uroflograms in a patient with prostatic enlargement treated by retropubic prostatectomy. Figure 7 shows moderate improvement in the voiding rate of a patient who had an inadequate transurethral resection, then further improvement after additional tissue was resected.

Urethral Stricture. The uroflometer is of considerable aid in determining the degree of obstruction in patients with urethral stricture. Frequently in such cases there is no significant residual urine in the bladder even though the urinary stream may be extremely slow. Postdilatation uroflograms provide an objective record of the effect of treatment and are helpful in determining the proper interval between urethral dilatations.

Urethral and urethrovesical strictures in women comprise a large portion of the urologist's practice. Symptoms are often vague, and since women cannot observe their urinary stream, their descriptions are usually inaccurate. We are now devising a commode

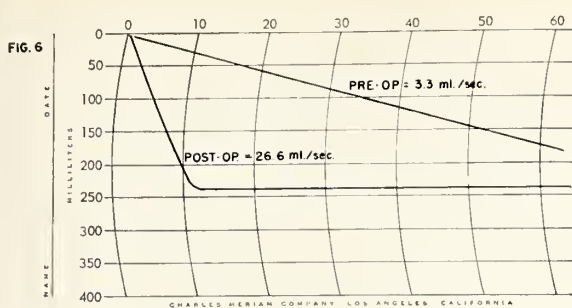


Figure 6.—Preoperative and postoperative uroflgrams of patient who had retropubic prostatectomy for benign prostatic hypertrophy.

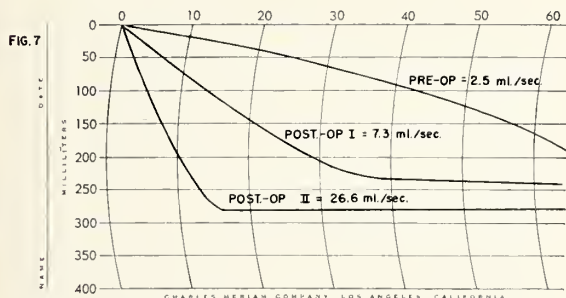


Figure 7.—Preoperative uroflgram of patient with prostatic enlargement (2.5 ml. per second), then uroflgram after transurethral prostatectomy, showing only moderate improvement (7.3 ml. per second), and finally maximum voiding rate of 26.6 ml. per second after revision of transurethral resection.

which will funnel the urine into the uroflometer and provide an accurate record of the voiding rate. Heretofore, female patients have been instructed to sit on the edge of a chair and place the funnel under the perineum. However, this awkward performance may affect the reliability of the test. Frequency of treatments is determined by the uroflgram on repeated performances.

Congenital Obstructive Lesions in Children. It has been found that children over the age of 6 can cooperate in voiding into the uroflometer, thereby providing useful information regarding the degree of impairment of the voiding rate. Such tracings, however, must be correlated with other clinical and urological findings, since the detrusor can frequently compensate effectively in young persons in producing normal voiding rates even in the presence of increased infravesical resistance.

Neurogenic Bladder Problems. Differential uroflometry has its greatest usefulness in the evaluation of neurogenic bladder problems. When the factor of urethral resistance is eliminated by having the patient void through a catheter, a measure of detrusor function is obtainable. The effect of treatment for the neurological deficit can be objectively followed with uroflgrams.

How reliable is the uroflometer in the clinical evaluation of patients with obstructive or neurogenic

voiding problems? Recent articles have suggested that the instrument might not be sufficiently reliable for its general acceptance as a tool of urological diagnosis.^{9,11} It has been stated that some normal subjects void at a rate of less than 20 ml. per second, and likewise that a few patients with prostatism void with flow rates greater than those of some normal persons. Since a slow rate of flow may indicate obstruction, detrusor weakness, psychic disturbances or be present in normal individuals, earlier observations as to the usefulness of uroflometry have been viewed askance. However, urologists who have had the longest and widest experience with the instrument,^{3,7,8} hold that it can supply valuable information. Of course, they readily admit that the information concerns only one parameter of a urological problem. Naturally a patient with a normal uroflgram but a large amount of residual urine, a trabeculated bladder and obvious urethroscopic evidence of obstruction presents a confusing problem. Likewise, there may be persons, with no urinary tract disorder who have an "abnormal" rate of urinary flow. But such inconsistencies are very rare in our experience, and at any rate such persons should be viewed with the perspective necessary for an accurate diagnosis in all cases. Furthermore, the other objective methods of evaluating voiding problems are not suitable for routine clinical use,^{9,12} and therefore, are still in the realm of experimental tools. The uroflometer then should continue to be used as an extremely helpful adjunct in the diagnosis of voiding problems.

Kaufman Uroflometer is manufactured by Charles Meriam Company, 5017 Telegraph Road, Los Angeles 22.

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Emotionally Disturbed Children and Adolescents

California State Department of Mental Hygiene Programs

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THE DEPARTMENT OF MENTAL HYGIENE currently provides services through three different fiscal approaches for children and adolescents who are emotionally disturbed: (a) 100 per cent state financing, (b) federal grant-in-aid subsidies and, (c) subsidies to local governments under the provisions of the Short-Doyle Act. In addition to either the direct operation of programs or the subsidy of programs, the Department of Mental Hygiene licenses private institutions which include two categories providing services for emotionally disturbed children, namely, (a) day care centers and (b) residential centers. Consultation is also provided by all segments of the department for those organizations and groups desiring it in connection with planning for or providing for services for emotionally disturbed children and adolescents. The way in which the money for the services is supplied—which of the three ways already mentioned—determines to a large extent the type and degree of control by the Department of Mental Hygiene.

100 PER CENT STATE FINANCING

1. Residential Treatment Programs

Two of the state hospitals offer specialized programs for children and adolescents, the Napa State Hospital in Northern California and Camarillo State Hospital in Southern California. In the fiscal year ended June 30, 1960, Napa State Hospital admitted 342 patients through age 18 and Camarillo State Hospital admitted 314. Table 1 gives data on these patients with regard to diagnosis, age and sex. Most of the patients admitted were in the age group 13 through 18. Tables 2 and 3 give data on the patients actually resident in the two units on June 30, 1960. Most were in the 13 through 18 age group and the psychotic disorders predominated. A preponderance of psychotic disorders is to be expected, since the turnover in that group is not great, and there is an increasing number of long-term patients as time goes on. This can be expected to increase still more. Method of admission generally falls into one of

• Through programs that are directly operated by the state and through subsidy programs using state funds and federal funds, the Department of Mental Hygiene in California provides services for children and adolescents who are emotionally disturbed. Private institutions for these purposes, in the form of residential centers and day care centers, are licensed by the Department of Mental Hygiene. Direct services provided by the Department of Mental Hygiene include residential treatment programs and out-patient clinic services.

There have been increased demands for more residential treatment programs and for services for rural areas. Indications have been noted of increased need for research on questions dealing with services of this kind and increased training programs to provide adequate numbers of trained personnel.

three main categories: (a) voluntary, (b) commitment for mental illness, and (c) for observation, by court order, for a period up to 90 days. Courts frequently resort to orders of the latter kind for youthful offenders who they feel may have emotional problems causing or contributing to behavior problems. On patients of this kind, a report is made to the court. The commitment for mental illness and voluntary admission are actually for residential treatment of emotionally disturbed children and adolescents. The units at both Napa State Hospital and Camarillo State Hospital are specialized units with specialized programs for their patients. Facilities, staff and program are specifically for the age group served and include a full school program staffed with competent, well-trained educators.

In addition to these specialized units, a committing court may commit a mentally ill adolescent 16 years of age or over to the state hospital nearest his home. At this time only a small portion are admitted to other than Napa and Camarillo. In the year ended June 30, 1960, there were 857 admissions of patients under 18 years of age to the hospitals for the mentally ill, including Napa and Camarillo. These 857 were 3.8 per cent of all admissions. Of the 857, a total of 656 were admitted to Napa and Camarillo, leaving only 201 under 18 admitted to the other eight hospitals for the mentally ill.

Chairman, Committee on Children's Services, California State Department of Mental Hygiene, Sacramento.

Submitted April 14, 1961.

TABLE 1.—Data on Juvenile Patients Admitted to Camarillo and Napa State Hospitals, Year Ended June 30, 1960

Diagnosis	Total	Male	Female	Age (Years)		
				0 to 5	6 to 12	13 to 18
Camarillo State Hospital:						
Acute brain syndromes (drug or poison intoxication, except alcohol)	1	1	....	....	....	1
Chronic brain syndromes:						
Intracranial infection.....	1	1	....	....	....	1
Birth trauma.....	3	2	1	....	1	2
Other trauma.....	2	2	....	....	....	2
Circulatory disturbance.....	1	1	....	....	....	1
Convulsive disorder.....	26	14	12	....	8	18
Intracranial neoplasm.....	1	1	....	....	1	....
Diseases of unknown and uncertain cause.....	2	2	....	....	1	1
Unknown cause.....	1	1	....	....	....	1
Chronic brain syndromes, total.....	37	24	13	....	11	26
Psychotic disorders:						
Psychotic depressive reaction.....	1	....	1	....	....	1
Schizophrenic reactions.....	136	82	54	2	17	117
Psychotic disorders, total.....	137	82	55	2	17	118
Psychoneurotic reactions.....	21	10	11	....	5	16
Personality disorders:						
Personality pattern disturbance.....	28	23	5	....	10	18
Personality trait disturbance.....	59	37	22	2	26	31
Antisocial reaction.....	6	2	4	....	....	6
Drug addiction.....	3	3	....	....	....	3
Personality disorders, total.....	96	65	31	2	36	58
Transient situational personality disturbance.....	20	7	13	....	6	14
Mental deficiency.....	2	2	....	1	1	....
All diagnoses, total.....	314*	191	123	5	76	233
Napa State Hospital:						
Chronic brain syndromes:						
Diseases and conditions due to prenatal influence.....	3	1	2	....	3	....
Epidemic encephalitis.....	2	1	1	....	....	2
Other intracranial infections.....	1	1	....	....	....	1
Birth trauma.....	1	1	....	....	1	....
Other trauma.....	3	3	....	....	1	2
Convulsive disorder.....	4	2	2	....	....	4
Diseases of unknown and uncertain cause.....	3	2	1	....	2	1
Unknown cause.....	4	4	....	....	1	3
Chronic brain syndromes, total.....	21	15	6	....	8	13
Psychotic disorders:						
Manic-depressive reaction.....	1	1	....	....	....	1
Schizophrenic reactions.....	117	75	42	5	13	99
Other.....	2	1	1	....	2	....
Psychotic disorders, total.....	120	77	43	5	15	100
Psychoneurotic reactions.....	25	9	16	....	1	24
Personality disorders:						
Personality pattern disturbance.....	52	37	15	....	9	43
Personality trait disturbance.....	40	31	9	....	7	33
Antisocial reaction.....	14	11	3	....	....	14
Dyssocial reaction.....	2	2	....	....	....	2
Sexual deviation.....	1	1	....	....	....	1
Drug addiction.....	1	....	1	....	....	1
Personality disorders, total.....	110	82	28	....	16	94
Transient situational personality disturbance.....	36	24	12	....	5	31
Mental deficiency.....	25	17	8	....	3	22
Without mental disorder.....	5	5	....	....	2	3
All diagnoses, total.....	342*	229	113	5	50	287

*Including changes in legal classification.

TABLE 2.—Juvenile Patients Resident, by Diagnosis, Age, and Sex, Camarillo State Hospital, June 30, 1960

Diagnosis	Total	Male	Female	Age (Years)		
				0 to 5	6 to 12	13 to 18
Chronic brain syndromes:						
Birth trauma.....	5	4	1	....	1	4
Other trauma.....	4	4	....	....	....	4
Convulsive disorder.....	24	14	10	....	9	15
Diseases of unknown and uncertain cause.....	2	2	....	....	1	1
Unknown cause.....	2	2	....	....	1	1
Chronic brain syndromes, total.....	37	26	11	....	12	25
Psychotic disorders:						
Schizophrenic reactions.....	160	103	57	1	47	112
Other.....	1	1	....	....	....	1
Psychotic disorders, total.....	161	104	57	1	47	113
Psychoneurotic reactions.....	12	8	4	....	3	9
Personality disorders:						
Personality pattern disturbance.....	14	9	5	....	4	10
Personality trait disturbance.....	40	29	11	1	21	18
Personality disorders, total.....	54	38	16	1	25	28
Transient situational personality disturbance.....	13	8	5	....	4	9
Mental deficiency.....	4	3	1	....	....	4
All diagnoses, total.....	281	187	94	2	91	188

TABLE 3.—Juvenile Patients Resident, by Diagnosis, Age, and Sex, Napa State Hospital, June 30, 1960

Diagnosis	Total	Male	Female	Age (Years)		
				0 to 5	6 to 12	13 to 18
Chronic brain syndromes:						
Diseases and conditions due to prenatal influence.....	1	1	....	....	1	....
Epidemic encephalitis.....	1	....	1	....	....	1
Other intracranial infections.....	1	1	....	....	1	....
Drug or poison intoxication (except alcohol).....	2	1	1	....	1	1
Convulsive disorder.....	4	2	2	....	....	4
Unknown cause.....	1	1	....	....	....	1
Chronic brain syndromes, total.....	10	6	4	....	3	7
Psychotic disorders:						
Schizophrenic reactions.....	95	60	35	2	17	76
Other.....	1	....	1	....	1	....
Psychotic disorders, total.....	96	60	36	2	18	76
Psychoneurotic reactions.....	8	4	4	....	....	8
Personality disorders:						
Personality pattern disturbance.....	16	7	9	....	1	15
Personality trait disturbance.....	8	5	3	....	2	6
Antisocial reaction.....	2	2	....	....	....	2
Dyssocial reaction.....	1	1	....	....	....	1
Sexual deviation.....	1	1	....	....	....	1
Drug addiction.....	1	....	1	....	....	1
Personality disorders, total.....	29	16	13	....	3	26
Transient situational personality disturbance.....	3	2	1	....	....	3
Mental deficiency.....	10	10	....	....	....	10
Without mental disorder.....	1	1	....	....	....	1
All diagnoses, total.....	157	99	58	2	24	131

TABLE 4.—Admissions and Readmissions of Outpatients, by Clinic, Selected Age Groups and Sex, California State Mental Hygiene Clinics, Year Ended June 30, 1960

Clinic	Total Admissions, All Ages*	Total, All Admissions, Children and Adolescents	First Admissions						Readmissions					
			Total, First Admissions of Children and Adolescents			0 to 4			5 to 9			10 to 14		
			M	F	Total	M	F	Total	M	F	Total	M	F	Total
Berkeley	491	130	122	7	4	28	8	27	21	12	15	3	1	4
Chico	205	91	79	1	4	14	2	30	9	13	6	2	2	4
Fresno	358	47	45	...	...	7	2	10	3	11	12	1	1	...
Los Angeles:														
Los Angeles	538	114	102	1	1	16	5	20	16	26	17	2	2	3
Long Beach	69	4	4	...	...	...	...	...	...	2	2	...	...	...
San Fernando	162	13	13	...	...	...	...	7	1	3	2	...	...	...
San Pedro	200	29	24	...	...	1	1	9	2	8	3	...	...	...
Los Angeles, all branches, total	969	160	143	1	1	17	6	36	19	39	24	4	3	4
Riverside	183	86	77	5	3	21	10	16	8	8	6	...	...	...
Sacramento	414	66	62	...	...	7	3	10	7	20	15	3	...	...
San Diego	334	59	56	...	...	1	3	20	4	4	9	2	1	...
All clinics, total	2,954	639	584	14	13	109	34	149	71	107	87	17	8	11

*Represents total of all admissions, for all age groups, including all adults, for purposes of comparison.

The Langley Porter Neuropsychiatric Institute in San Francisco and the U.C.L.A. Neuropsychiatric Institute both have residential treatment programs. The unit at U.C.L.A. is new and just starting operation. The unit at Langley Porter is small but is intensive in its therapeutic approach. There is special emphasis in the program at both institutes on teaching and research, since both facilities are operated in conjunction with medical schools. The staffs are in part Department of Mental Hygiene personnel and in part University of California personnel. Of the medical staff at the Langley Porter Neuropsychiatric Institute all except one of the physicians are employees of the University of California School of Medicine. The staffs of these two institutes, which include some of the leaders in the field of child psychiatry today, have devoted considerable time to consultation and assistance in program development in all parts of the state as well as nationally.

2. Outpatient Clinic Programs

The staffs of the two neuropsychiatric institutes see children and adolescents in large numbers. For the year ended June 30, 1960, 379 were admitted. In addition to the outpatient departments of the two institutes the state operates seven regional mental hygiene clinics. Some of them, like the one at Chico, serve geographical areas of considerable extent. The seven clinics are all-purpose, general psychiatric clinics, and how great a proportion of the total number of patients is made up of children and adolescents depends on the training and interest of the staff. Several of the clinics are under the direction of psychiatrists with considerable training and experience in working with children and adolescents. The seven regional clinics are at Berkeley, Chico, Fresno, Riverside, Sacramento, San Diego and Los Angeles. The one at Los Angeles has branch clinic operations in Long Beach, San Fernando and San Pedro. These seven clinics and their branches admitted 639 children and adolescents through age 17. Table 4 gives additional data on them. Adding to

TABLE 5.—Discharges of Children and Adolescents Through Age 17 from California State Mental Hygiene Clinics for Fiscal Year Ended June 30, 1960

Diagnostic Category	Total Discharges Children and Adolescents	Per Cent of Total in Residence
Chronic brain syndromes.....	22	3.5
Psychotic disorders	34	5.5
Psychophysiologic disorders.....	1	0.1
Psychosomatic disorders	67	10.7
Personality disorders	84	13.5
Transient situational personality disturbances	291	46.8
Mental deficiencies	22	3.5
Without mental disorder not diagnosed	101	16.4
Total	622	100.0

TABLE 6.—Total Admissions, First Admissions, and Readmissions, by Program, Service, Facility, Age Group and Sex, State and Local Mental Health Programs, Year Ended June 30, 1960

Program, Service, Facility	Total, All Admissions	Total, First Admissions	First Admissions						Total, Re-admissions	Readmissions						
			Age in Years							Age in Years						
			0 to 11		12 to 17		13 and Older			0 to 11		12 to 17		13 and Older		
			M	F	M	F	M	F		M	F	M	F	M	F	
All inpatient services:																
Contra Costa County.....	479	359	...	...	5	4	158	192	120	...	...	1	1	75	43	
Los Angeles County.....	861†	623	9	6	10	12	221	365	238	10	9	17	8	66	128	
San Francisco County.....	1,690	1,163	...	...	3	2	624	534	527	...	...	...	...	319	208	
San Joaquin County.....	212	149	...	...	1	11	45	92	63	...	...	...	2	17	44	
San Mateo County.....	1,602	1,035	1	...	5	20	513	496	567	...	...	2	2	294	269	
All inpatient services, total.....	4,844†	3,329	10	6	24	49	1,561	1,679	1,515	10	9	20	13	771	692	
All outpatient services:																
Contra Costa County.....	432	387	18	13	42	21	86	207	45	1	...	4	5	13	22	
Los Angeles County.....	771‡	719‡	...	...	1	11	260	447	52	...	...	...	1	17	34	
Monterey County.....	111	97	33	14	29	14	3	4	14	5	4	3	1	...	1	
San Francisco County:																
Division of Mental Hygiene.....	609	524	226	130	79	52	9	28	85	35	15	12	14	5	4	
County Hospital.....	227	211	...	...	2	1	77	131	16	...	...	...	...	7	9	
Adult Guidance Center*.....	977	336	...	...	1	...	236	99	641	1	...	...	...	497	143	
San Francisco County, total.....	1,813	1,071	226	130	82	53	322	258	742	36	15	12	14	509	156	
San Joaquin County.....	578	565	40	15	83	52	147	228	13	2	...	1	3	4	3	
San Jose, City.....	252	214	15	4	29	18	46	102	38	4	2	6	1	3	22	
San Mateo County.....	1,167	1,035	157	51	176	105	249	297	132	8	6	25	8	39	46	
Santa Clara County.....	799	729	105	46	75	52	168	283	70	8	3	3	3	22	30	
Santa Cruz County.....	284	239	36	10	34	32	36	91	45	3	3	11	7	5	16	
Sonoma County.....	396	356	50	11	52	40	65	138	40	...	...	5	2	9	24	
Ventura County.....	98	87	16	1	13	10	17	30	11	2	...	2	...	...	7	
All outpatient services, total.....	6,701	5,499	696	295	616	408	1,399	2,085	1,202	69	34	72	45	621	361	
All rehabilitation services:																
Los Angeles County:																
Olive View Sanitarium.....	142	141	...	...	6	1	69	65	1	...	...	...	...	...	1	
Rancho Los Amigos.....	35	35	...	...	1	2	18	14	...	...	...	...	...	...	...
Los Angeles County, total.....	177	176	...	...	7	3	87	79	1	...	...	...	...	...	1	
San Joaquin County.....	35	35	...	...	...	1	9	24	...	...	...	...	...	...	...
San Mateo County.....	240	216	...	...	...	...	130	86	24	...	...	...	...	16	8	
Sonoma County.....	30	30	...	...	1	1	11	17	...	...	...	...	...	...	...
All rehabilitation services, total.....	482	457	...	...	1	5	237	206	25	...	...	...	...	16	9	
All inpatient services.....	4,844	3,329	10	6	24	49	1,561	1,679	1,515	10	9	20	13	771	692	
All outpatient services.....	6,701	5,499	696	295	616	408	1,399	2,085	1,202	69	34	72	45	621	361	
All rehabilitation services.....	482	457	...	...	1	5	237	206	25	...	...	...	...	16	9	
All programs, total.....	12,027	9,285	706	302	648	462	3,197	3,970	2,742	79	43	92	58	1,408	1,062	

*The San Francisco Adult Guidance Center, which operates as an alcoholic rehabilitation center, reported to the department with the outpatient psychiatric clinics during fiscal year 1960, although its operations are not typical of such clinics.

†Of the 1,142 total admissions to Los Angeles County Hospital, 281 were admitted and discharged before data reporting began, and are not included in this summary.

‡Of the 824 outpatient admissions in Los Angeles County, 53 were admitted and discharged before data reporting began or were still to be reported at publication, and are not included in this summary.

this number the admissions at the two neuropsychiatric institutes for the fiscal year ended June 30, 1960, brings the total to 1,018. Table 5 shows the proportions of patients of various diagnostic categories discharged during the fiscal year ended June 30, 1960.

SUBSIDY PROGRAMS USING STATE FUNDS

The Short-Doyle Act, passed in 1957, was developed by the legislature to encourage the development of local mental health services. Programs are locally administered and locally controlled. Any county, or combination of counties, may establish such programs. So can a city or a combination of cities with at least 50,000 population. The local government is reimbursed 50 per cent for all eligible expenditures incurred.

There are five kinds of services possible: (a) Inpatient treatment, (b) outpatient clinics, (c) rehabilitation services, (d) consultation service and, (e) educational services. Certain limitations apply to these services in terms of patients that can be served. Patients must be voluntary and inpatient treatment has a 90-day limitation. This latter limitation would affect any long-term residential treatment of a child. Since most intensive residential treatment of children is long-term, this limitation curtails the usefulness of the act for such care. The voluntary requirement also imposes a limitation since there can be no reimbursement for patients seen as part of a court order. This excludes the use of the act for diagnostic evaluations for juvenile courts and juvenile halls. Despite these limitations, however, many children and adolescents are served through the provisions of the act.

Table 6 gives the data for admission by age group to the Short-Doyle facilities for the fiscal year ended June 30, 1960. This table gives the information for the three services allowed under the act for direct patient service, namely (a) outpatient services, (b) inpatient services and, (c) rehabilitation services. In several programs there are specific child guidance clinics, while in many others the outpatient clinics operate on a general basis, dealing with all age groups, including children and adolescents. In the establishment of these facilities, there has been a decided effort on the part of the local governing bodies to give a high priority to establishing services that will serve children and adolescents. The two possible services under the provisions of this act which do not provide for a direct patient service are (a) consultation and (b) educational services. The consultation service provides for professional staff to consult with nonpsychiatric professional groups and individuals about their clients and about patients. The educational services provide for the

teaching of mental health and psychosocial concepts to nonpsychiatric professionals or to the general public. The consultation service has been particularly well accepted by the local programs. It has been used especially for personnel in school departments, health departments and probation departments in relation to their work with children and adolescents.

FEDERAL PROGRAMS USING STATE FUNDS

The Department of Mental Hygiene is the state authority for providing the allocation of federal grant-in-aid funds to local areas for the development and support of community mental health services. These funds are limited in amount and usually are under \$450,000 a year. Forty-five applications for grants, for many different kinds of program for the fiscal year 1961-62 have been received. Prominent in the requests each year are for money for services to children and families. For example, included in the requests were five for psychiatric clinics—mainly for children, four for family casework services, one for inservice training in counseling for teachers, two for day treatment programs for emotionally handicapped children, one for educational counseling services and one for group counseling of fathers and sons in a church setting. These funds are granted for a limited period, usually not more than three years; and if granted for that period, the amount diminishing each year, it being expected that the local agency will plan a gradual assumption of financial responsibility for the program. Since the available funds are limited, only a portion of the requests can be granted.

PRIVATE INSTITUTIONS LICENSING

Of the several different kinds of privately operated institutions licensed by the Department of Mental Hygiene, two, specifically—day-care and residential treatment centers—are for services for children and adolescents. In the day-care center category there are four that have services for either children or adolescents. These are facilities that provide care during the day, the patient residing in his own home the rest of the time. Occupational therapy is provided, as are organized recreational programs. Psychiatric treatment and counseling may be available. There are three licensed residential treatment centers, with a combined capacity of 229, for emotionally disturbed children. They admit patients of school age for treatment of mental or emotional disturbances requiring psychiatric treatment. There may be an educational program on the grounds, or the children may attend a public school.

PROBLEM AREAS AND AREAS FOR FUTURE PLANNING

Four main areas for programs for dealing with emotionally disturbed children and adolescents require additional consideration and planning for the future:

1. Population increases will necessitate either more residential treatment units or some alternate approach such as the day hospital.

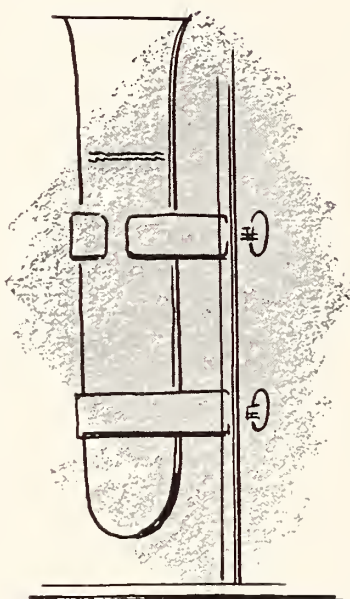
2. Rural areas, remote from urban areas with specialized programs of all kinds for children and adolescents, have needs that are not being met adequately. Small populations in these areas prevent local establishment of programs because of the cost

and the factor of distance that is involved in either the patient traveling to a distant unit or the distant unit traveling to the patient.

3. The opportunities and need for further research into the problem of children and adolescents are many and research should be developed and expanded in this area.

4. To staff facilities adequately, increased numbers of trained personnel are required. This in turn requires an exploration of existing training programs and the finding of ways to develop and expand them.

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The Prevention of Lung Cancer

Applications of Some Current Theories

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CANCER OF THE LUNG, a rarity only a generation ago,¹ has increased greatly in recent years and now kills more than 35,000 Americans annually, accounting for nearly five per cent of all deaths of males.¹⁶ Only a small part of this increase can be ascribed to changes in the age distribution of the population and improvements in the diagnosis of the disease.¹⁵ The disease is world wide, but there are differences in incidence in various places and segments of the population, which may suggest possible etiological factors.⁷

DIAGNOSIS AND TREATMENT

To facilitate surgical attack on the disease, attempts have been made to diagnose lung cancer early by searching clinical history and physical examination, by widespread minifilm surveys, by repeated x-ray studies of high incidence groups, by energetic bronchoscopic examinations, by microscopic examinations of sputum and bronchoscopic washings for abnormal cells, and by early exploratory operations. Not often, however, can cancer of the lung be found in time for successful treatment.³ Even so, many lives have been saved by successful surgical resection. The physician who was originally so treated by Graham⁸ survived many years as a result of the operation. The proportion of such successful cases among the large number in which operation is done is still quite small, however. In almost half of all recognized cases of lung cancer, by the time the lesion is diagnosed it is too far advanced for operation to be contemplated.⁹ And in about half of the remainder the lesions are found at operation to be so extensive that there is little chance for more than palliation. Even in the minority of all lung cancer patients who have radical resection of the involved lobe or lung, less than a third at best (and in most series less than a tenth) survive for five years. Thus less than one in twenty cases of lung cancer is cured by present operative measures.¹⁰

Many failures in surgical removal of lung cancer result from late diagnosis, after local invasion

• The rapid increase in the incidence of bronchogenic carcinoma, the difficulties in early diagnosis and the infrequency of successful treatment emphasize the importance of attempts at its prevention. Much has been learned regarding the role of a variety of environmental factors in the genesis of this disease, although further studies are to be desired.

The complete elimination of exposures to excessive irradiation or the inhalation of radioactive substances, to inorganic, organic or animate particles which may be responsible for chronic pulmonary diseases, and especially to automobile exhaust and cigarette smoke, occupational irritating or carcinogenic air pollutants and other predisposing conditions may require extensive changes in industry, government and society. A number of practical personal precautions are available, however, which may greatly reduce the hazard for the individual observing them.

has already affected the mediastinal structures, or lymphatic or hematogenous spread has carried the disease to the adrenal glands, the brain and other areas. Other failures are ascribable to inept operation or to spread at the time of operation. Even when diagnosis is early and extensive operative resection with complete removal of all tumor cells is carried out before metastasis has occurred, the same factors which lead to the original malignant neoplasm may lead to the development of further foci of bronchogenic carcinoma.

This does not mean that efforts should not be made to detect lung cancers early and to explore and resect whenever the diagnosis appears probable and complete removal feasible. Deep x-ray and other forms of irradiation may be of palliative value in some cases. Chemotherapy for lung cancer is still a slim hope for the future. Faith healing and quackery abound, and sometimes lead to loss of even the little chance that operation might offer.

PREVENTION

The rapid increase in the incidence of bronchogenic carcinoma, the difficulties of early diagnosis and the infrequency of successful treatment emphasize the importance of attempts at prevention. Prophylaxis of malignant disease is by no means an untried and unproved procedure.¹⁷ As soon as caus-

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Submitted February 15, 1961.

ative factors or conditions favoring the development of a condition are recognized, measures may be taken to overcome them. Many occupational cancers, from the chimneysweeps' cancer and the mule-spinners' cancer of England to the aniline workers' bladder cancer or the luminous-watch painters' bone sarcoma in our own country, have been almost entirely overcome due to advances of industrial hygiene.⁴

As yet, however, no coordinated effort aimed primarily at lessening the incidence of lung cancer has been made although much has been learned in recent years regarding the role of a variety of factors that are associated with increased incidence of this disease. While further studies are greatly to be desired, it is well to take note of Maisin and Clemmesen's¹² observation that "it was about 150 years after Percivall Pott explained the etiology of chimneysweep's cancer and prescribed methods for its prevention before carcinogens were demonstrated in soot." It seems warranted to urge, therefore, that "we show the same practical sense as our forefathers and not look for direct proofs which are out of our reach before we transmit experience into practical measures."¹²

SUSCEPTIBILITY

Hereditary factors that predispose to lung cancers in mice do not appear important with regard to the common forms of bronchogenic carcinoma in man. Hence, without more knowledge than we have, eugenic considerations are of little value in preventing lung cancer. Congenital changes due to prenatal irradiation, chemical poisons or infective agents, which may predispose to some forms of malignant disease, especially leukemia or teratoma in animals, as well as to other congenital defects in man, have not been shown to cause lung cancer.

Age, sex, race, place, occupation and other factors associated with differences in the incidence of carcinoma of the lung usually reflect differences in exposure to external carcinogens rather than any constitutional difference in susceptibility, but study of data of this order may lead to earlier diagnosis and treatment, and perhaps may lead to identification of some of the carcinogenic factors. Abnormalities in body build, hormonal and nutritional disturbances, pigmentation, overweight and other constitutional factors that affect the incidence of some kinds of cancer have not been particularly implicated in cancer of the lung.

Infections may be direct etiologic agents in the virus tumors of plants and in the leukemias and lymphosarcomas in fowl and mice, but that they are a direct cause of lung cancer in humans has not been demonstrated. Multiple alveolar cell carcinomatosis or Jagsiekte's disease in sheep may be due

to an infective virus but no such agent has been demonstrated in similar looking tumors in man or in other kinds of lung cancers in animals.

Reaction to influenza virus or other acute or chronic lung infections or the inhalation of various physical and chemical irritants may produce mild injury of the bronchial and alveolar epithelium with regeneration leading to cellular proliferation with hyperplasia and metaplasia suggesting early stages of malignant changes. This may be merely a superficial resemblance, or it may indirectly facilitate other carcinogenic factors. Thus there may be increased vulnerability to carcinogenic changes during these regenerative processes, or the resultant physiological change may lead to increased deposition or absorption, or to lessened transportation and removal of carcinogenic materials.¹¹

OCCUPATION

Occupational exposure leading to cancer of the lung may be found in many industries. Asbestos, arsenic, beryllium, chromium, nickel, metal grindings and foundry fumes have been especially incriminated. An increased incidence of lung cancer has been reported in artificial gas workers, but not yet in natural gas or petroleum refinery workers or in garage and service station workers in whom it might be anticipated.

The lung cancers in the miners of Schneeberg and Joachimsthal, the first occupational instances known, were probably due to inhalation of radon and other radioactive particles, although external irradiation or absorption of arsenic and other carcinogens may have played a part also. Exposure to radiation by radiologists, x-ray technicians and persons who work with x-rays in industrial processes, and more recently in atomic energy plants, may produce some increase in incidence of lung cancer, but this seems small compared with the increased incidence of leukemia, bone sarcoma, skin cancer and other more common effects.

The carcinogenic effect of direct radiation and later fallout from fission and fusion atomic explosions is chiefly manifested in the skeletal, connective, hematopoietic and cutaneous tissues, but some pulmonary involvement, especially from the inhalation of radioactive isotopes, cannot be excluded. Civil defense education and precautions in the event of known or expected hazard may help minimize the carcinogenic effect.

AIR POLLUTION

Mortality rates from cancers of the respiratory tract are much higher in large cities than in small ones, and as compared with rural areas are higher

yet. Some of the disparity in death rates may be owing to disparate statistical material rather than to real difference in incidence of disease: Thus more people die with undiagnosed lung cancer in the rural than in the urban areas, or go to a city to be treated and die there. Differences in age, sex, race, occupation, and habits (such as the use of cigarettes) between urban and rural populations account for another part of the disparity. Still it is probable that air pollution, which is greater in all cities, conspicuously in London and Los Angeles, is an important factor in the higher incidence of death from lung cancer in cities.

A large variety of unsaturated polycyclic hydrocarbons and other aromatic and aliphatic organic compounds with carcinogenic properties may be found in the air. Some of them arise from the tars and asphalts used in paving streets and roofing buildings, some from fuels or from other substances used or produced in industrial processes or from combustion products of domestic or industrial waste and open burning dumps. Perhaps the most abundant and dangerous air pollutants arise from the vaporization of unburned petroleum and its products, and from their incompletely oxidized derivatives in the exhaust of motor vehicles.

Some reduction in acute irritants as well as in carcinogenic substances in the atmosphere may be expected from changes in materials and processes used in industry, from the use of double chamber incinerators and other measures to promote complete combustion, from the installation of electrical precipitators or filters in smokestacks for recovery of sulphur and other substances now lost in fumes and from innumerable other specific measures. Reduction of combustion of all kinds, and wetting down of dust, particularly that containing tars and other carcinogens, before vigorous sweeping or other activities which might scatter it into the atmosphere, may also help.

CIGARETTES

Cigarette smoking is by far the most important although not the only factor associated with the induction of cancer of the lung. Variations in individual susceptibility, in cosmic and other sources of radiations, in occupational inhalation of carcinogenic agents and in exposure to other forms of air pollution may all contribute to the occurrence of lung cancer but to a lesser degree. Although, as many observers have pointed out, many angles of the problem require further elucidation,¹⁴ the evidence for a direct relationship between cigarette smoking and lung cancer is overwhelming.¹⁸

The carcinogenic effect of the use of tobacco is indicated by the relationship between the site of malignancy and the manner of use of tobacco. Lip cancers are most frequent in smokers of short-stemmed clay pipes; tongue and throat cancers in cigar smokers; palatal cancers among an Indian group who habitually insert the lighted end of the cigarette in the mouth, and buccal cancers in chewers of tobacco mixed with lime and betel nut. Lung cancers, on the other hand, occur chiefly in persons who inhale the fumes of tobacco into the bronchi and the lungs—that is, in cigarette smokers.

The quantitative relationship between the incidence of lung cancer and the amount of tobacco consumed, as indicated either by the number of cigarettes smoked daily, or by the number of years that the practice has been followed or by the size of the stump of the cigarette left unburned, supports the etiological importance of smoking in the genesis of lung cancer.⁶ The decreased incidence among persons who have quit smoking even after considerable exposure also is indicative.

The relationship between cigarette smoking and lung cancer has been clarified by recent histopathological and physiological investigations. Hyperplastic and metaplastic changes are strikingly increased in the epithelium lining the bronchial mucosa of cigarette users, especially in heavy smokers.² Smoke constituents and other air pollutants are deposited and concentrated in such areas.

It has been pointed out that cigarette smoking is especially associated with the common squamous cell carcinomas, ranging from highly differentiated epidermoid to undifferentiated oat-shaped or small round cell forms, and not with the pure adenomas, adenocarcinomas, alveolar cell carcinomas and various rarer forms arising from other cell types. The increase in lung cancers in recent years, as well as the much higher incidence of lung cancers in men than in women, and in cigarette smokers than in nonsmokers—these phenomena are associated mainly with the squamous cell varieties.⁵

Arsenic, 2-4 dibenzanthracene and other carcinogens have been demonstrated in cigarette smoke as well as in other sources of air pollution. Repeated and prolonged exposure to such agents may lead to the development of cancer at sites of localization and concentration of these materials, as has been shown to occur in experimental animals.

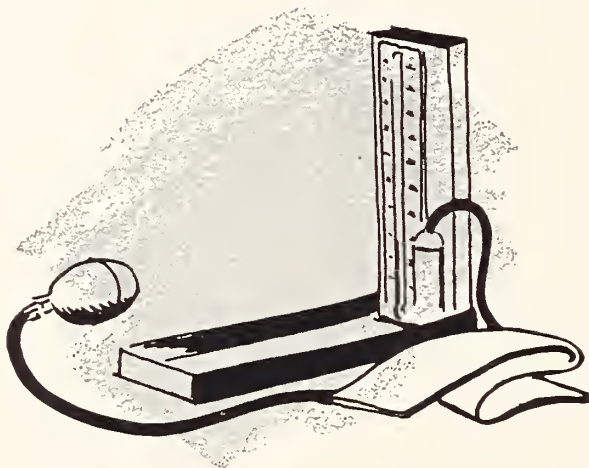
The experimental evocation of cancer of the skin and other sites in mice and other animals by the application of whole tobacco smoke or condensates, tars and other products has been repeatedly reported.¹³ Negative results, especially in inhalation experiments, may be due to inadequate dosage and duration of exposure or an insufficient number of

animals or other such factors. Although many problems regarding it need further research, the evidence against the smoking of cigarettes seems sufficiently convincing to warrant immediate action.

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Indications for Operation in Laryngeal Cancer

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THE ADVENT of newer techniques and ancillary measures has increased the stature of surgical treatment for cancer of the larynx. One and two decades ago radiation therapy was the backbone of treatment for laryngeal cancer, but today it safely may be said that surgical therapy is on an equal plane. In addition to changes in attitude within the medical profession, lay education regarding esophageal voice training, and mechanical devices, such as the electrolarynx developed by Bell Laboratories, have acquainted the laity with the picture of a post-laryngectomy patient.

Today there are specific indications for recommending surgical treatment, and the purpose of this paper is to review a series of patients with laryngeal cancer, stressing clinical and histologic factors, in order to more directly specify the indications.

ANALYSIS OF MATERIAL

The present study included 63 patients with laryngeal cancer, 18 previously reported on in a special study⁸ and another 45 patients operated upon since then (Table 1). These patients, not selected in any way, were operated on at the Stanford University Hospital (now Presbyterian Medical Center) and Mount Zion Hospital in San Francisco and at the Veterans' Administration Hospital and the United States Naval Hospital in Oakland.

Twenty-one of the patients had had previous x-ray therapy and the lesions were recurrences. Of the 42 remaining patients, six had laryngectomy alone without further operation on the neck and 36 were treated by combined laryngectomy and unilateral radical neck dissection. In six of these 36, a secondary neck dissection was performed on the opposite side. No patient had contralateral node metastasis initially. Three patients, not included in the overall group, had laryngofissure (cordectomy) for small cord cancers.

In the 42 patients who were surgically treated initially, all had lesions that were over 1 cm. in size and were beyond the intrinsic stage alone by the time of operation. In some it was impossible to state the exact site of origin of the tumor due to its size and overgrowth of surrounding tissues.

Presented before the Section on Ear, Nose and Throat at the 90th Annual Session of the California Medical Association, Los Angeles, April 30-May 3, 1961.

• Improvements in the surgical treatment of laryngeal cancer by combined laryngectomy and radical neck dissection have given new importance to selection of the mode of treatment for various stages of disease at that site. To cast light on the subject, the cases of 63 patients with cancer of the larynx were reviewed. Twenty-one of them were operated on for recurrence after radiation therapy; and 42 were treated surgically at the outset, 36 of them having combined laryngectomy and radical neck dissection. In almost 80 per cent of the patients the lesion was extrinsic.

In the entire series, 51 patients had combined operations, and in 41 of them the cervical lymph nodes were positive for metastasis.

Reports in the literature also make note of a very high incidence of cervical node metastasis not only in cases of extrinsic cancer, but also in those in which the lesion is intrinsic.

Because of the frequency of cervical node spread, and its occult nature, choice between radiation and surgical operation must be made after candid, critical appraisal of the individual condition in each patient.

In almost 80 per cent of the cases in which the site could be determined, the cancer arose in extrinsic laryngeal structures.

In the entire series of 63 patients, 51 had combined laryngectomy and unilateral neck dissection; 41 (80 percent) had cervical lymph node metastasis. In six of these patients the opposite side of the neck was operated on by neck dissection secondarily, at the time an enlarged node was palpated, and in each of these metastasis was present.

In the majority of cases in this unselected series, the lesions were relatively advanced at the time of diagnosis; perhaps only one patient in five, at the most one in four, had limited lesions of the kind

TABLE 1.—Analysis of 63 Patients with Laryngeal Cancer

Total number of patients	63
Number with previous treatment, radiation therapy	21
Number initially treated surgically	42
Number treated with combined laryngectomy and radical neck dissection	36
Number with bilateral staged neck dissection	6
Laryngectomy alone	6
Size of lesion, over 1 cm.	42
Per cent with extrinsic cancers	80%
Per cent with cervical lymph node metastasis, 51 neck dissections	41 (80%)
Number with bilateral metastasis	6

that would be amenable to a form of therapy which can eradicate local disease.

Despite the relatively large size of the tumor on initial examination and the high incidence of cervical node metastasis, over half of the patients treated surgically at the outset were alive and well at the time of this report, between three and five years after operation. Among the survivors are three patients who had bilateral, staged neck dissections.

CHOICE OF THERAPY

In the past two decades a change has occurred with regard to the stage of development of laryngeal cancer at the time of diagnosis. In private practice it is relatively rare to see patients with intrinsic laryngeal cancer in an advanced stage. Patients who have persistent hoarseness for several weeks are quickly sent to a laryngologist who easily makes a diagnosis of early cancer of the intrinsic larynx and institutes therapy. The patients, however, who present more of a problem, and seem to be in the majority, are those with extrinsic laryngeal cancer. These lesions, because of their insidious life cycle, often attain large size before being diagnosed; and the incidence of them appears to be on the increase.

Successful therapy of laryngeal cancer depends on two factors: control of the primary lesion; and control of cervical lymph node metastasis. It is not difficult to eradicate the primary lesion when it is situated in certain locations and has certain attributes. When the cancer is intrinsic and limited to the vocal cords, or with only superficial involvement of the ventricular bands, the likelihood of cervical node metastasis is low and the problem is usually confined to the larynx. Such factors as ulceration, infection, fixation and size need to be taken into consideration, but when these are present to a limited extent only the cancer may still be restricted to an area which can be eradicated locally. It is lesions of that order that are best treated with x-ray therapy and a reasonably high survival rate can be expected. The advent of supervoltage therapy, which reduces morbidity and yet increases tumor dose without concomitant destruction of normal tissues, is a major step forward and enhances effective radiation therapy.

Decision regarding the method of therapy depends on an accurate evaluation of the extent of the disease. In a series of 137 cases of intrinsic laryngeal cancer reported by Martin¹ in 1946, 39 patients (28 per cent) had cervical lymph node metastasis and in only 21 of these cases was the primary tumor less than 1 cm. in size. Of 170 patients with extrinsic laryngeal cancer, also in Martin's report, 147 had cervical lymph node metastasis, an incidence of 87 per cent. In only 12

of these patients was the size of the primary lesion less than 1 cm. Orton,⁷ in discussing radical neck dissection for laryngeal cancer, made no mention of intrinsic lesions but considered only those "extensive laryngeal carcinomas involving the epiglottis, aryepiglottic fold, ventricle, subglottic area, pyriform sinus and the lateral wall of the pharynx." Of 55 patients reported by him, two with cord lesions, and eight with ventricular band tumors had cervical lymph node metastasis which occurred after laryngectomy. Reed^{9,10} noted that of 75 patients with cervical node metastasis 20, or 27 per cent, had true cord lesions, O'Keefe,^{5,6} reporting on 80 patients who had secondary neck dissections, noted that 11 had previous thyrotomy for cord lesions alone, and that in 20 to 30 per cent of patients with laryngeal cancer cervical node metastasis occurred following laryngectomy. He concluded that "the one-stage combined operation is positively indicated where cervical nodes are palpable at the time of initial operation, and relatively indicated where, because of the extent or position of the carcinoma, one suspects the presence of or anticipates the early development of cervical metastasis."

Recurrence after irradiation deserves special consideration. Certainly, if the lesion is resectable, operation should be performed. In some quarters the opinion is held that x-ray can be tried first, regardless of the location of the cancer, and if it fails operation can be used. Of the 21 patients so treated in the present series, 14 had postoperative fistulas, some requiring three to six months of complicated tube pedicle grafting to close. Sixteen had cervical lymph node metastasis to at least one side of the neck, and 15 died of cancer within three years. Mention should be made of slow healing and prolonged stay in hospital related to x-ray therapy, the likelihood of occult cervical node metastasis remaining untreated, and fatal hemorrhage (in two of the 21 patients treated) from rupture of radionecrotic carotid arteries.

DISCUSSION

It is important to clarify, as well as possible, which patients with cancer of the larynx would be better treated surgically and which by radiation.

In 1955 the author⁸ reported on 18 patients with laryngeal cancer who were treated with combined, one-stage radical neck dissection and laryngectomy. The one factor common to these cases, in all of which there was lymph node metastasis, was involvement of some of the cartilaginous structures of the larynx—the cricoid, the arytenoids, the tracheal rings (subglottic) or the base of the epiglottis. The author believes that not only is the treatment of primary cancers such as these a surgical

problem per se, but that the lymphatic pathways and lymph nodes of the neck should be treated surgically at the same time. This concept can only be met by a combined operation. The use of radiation therapy to the larynx for these lesions not only entails risk of recurrence at the primary site but does not deal with possible lymphatic spread, which is of equal importance. A fact in point is that seven of the previously mentioned 15 patients with lymph node metastasis had been treated with radiation.

In addition to patients of the kind described in the preceding paragraph, there are others, with lesions arising on the cords or ventricular bands, who should be treated surgically. The size of the tumor, as has been mentioned by many other investigators,^{2,3} is an important factor, metastasis being much more likely from a tumor over 1 cm. in diameter than from a smaller one. Fixation, ulceration, cartilage necrosis, edema, infection and induration are signs of advancing disease and suggest that the problem may be no longer local. For patients with recurrence after radiation therapy, surgical operation is the only means of survival or even palliation.

Radiation therapy is best suited for more limited circumstances—for patients with smaller lesions, usually 1 cm. in diameter or less, lesions confined to a cord which is mobile and not complicated by edema, ulceration or induration. Patients with small, superficial cancers on the ventricular bands would likewise fall into the group considered for x-radiation, as well as other selected patients with limited lesions showing no evidence of cervical node metastasis. With the recent increases in early detection of

cancer, the number of patients meeting these criteria for irradiation is considerable.

No mention has been made of thyrotomy or cordectomy as a procedure. Indications for this operation vary,⁴ but in the author's opinion are narrowing. While it still has its place for a unilateral, small, movable cord cancer separate from the anterior commissure, a tumor which is only slightly larger and deeper than this requires more major effort to cure in the form of radiation, or even total laryngectomy. Supervoltage radiation, which leaves a stronger voice, and gives equally good results, seems preferable.

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CASE REPORTS

Intraperitoneal Oil Granuloma

OTTO J. TUSCHKA, M.D., Fresno

SEVERAL DECADES AGO there were numerous papers advocating the use of mineral and vegetable oil within the abdominal cavity to prevent the formation of peritoneal adhesions. In 1908 Blake¹ indicated that olive oil had a tendency to prevent adhesions and recommended its use in certain cases. Claypool² and Wilkie³ not only supported its use for the prevention of adhesions but also felt that the oil promoted subsequent drainage and peristalsis. Subsequent reports, however, indicated poor late results of this practice. Marshall and Farse³ reported operating on a patient who some 30 years previously had had a quantity of sterile liquid paraffin put into the abdominal cavity to prevent the adhesion of loops of intestines to the tubes in a case of salpingitis. Norris and Dawson⁴ reported two cases of peritoneal reaction to liquid petroleum. Both reports described typical granulomatous foreign body reaction of the peritoneal surfaces.

Descriptions of the tissue reaction to mineral substances such as talc and beryllium oxide have appeared in recent medical literature, but because contamination of the peritoneal cavity with mineral or vegetable oils is now fairly rare, little has been said of it in the past few years.

REPORT OF A CASE

A 26-year-old man, a laboratory technician, awoke in the middle of the night with generalized cramping abdominal pain and vomiting. By morning the pain had become steady and was localized in the lower abdomen. The patient had had pneumonia repeatedly in early life, beginning at one year of age. At age 12, he was examined at an institution for tuberculous patients and was thought to have congenital lung cysts on the right. Attempts were made to keep the lung collapsed with pneumothorax, and this was successful until the space was lost. A phrenic crush was then done and mineral oil was placed in the right lateral chest for permanent collapse of the lung. The patient had been fairly well since that time. He said that he had had no previous

abdominal discomfort or indigestion. On the day the abdominal pain began, there was no fever.

Upon physical examination some tenderness was noted in the lower abdomen, but it did not seem severe or localized. There were no masses and peristalsis was very active. A hard, fixed, nontender mass was felt in the cul de sac on rectal palpation. No abnormality was observed on sigmoidoscopic examination. X-ray films of the chest showed no change from those taken previously. An abdominal film revealed many areas of calcification of various sizes and density, distributed irregularly throughout the abdomen (Figure 1). The distribution of gas in the bowel was normal. Results of examination of the blood and urine were within normal limits.

At laparotomy, it was found that the visceral and parietal surfaces of the peritoneum were studded with white nodules, varying in size from 4 cm. to a few millimeters, some pedunculated and some



Figure 1.—Roentgenographic appearance of calcified intraperitoneal oil granulomas.

Submitted February 13, 1961.

plaque-like on the serosal surfaces. There were so many adhesions that the abdominal cavity and pelvis could not be thoroughly explored and the cecum was buried in adhesions so dense that the appendix could not be identified. There was no evidence of intestinal obstruction. The gross appearance of the abdomen was that of extensive carcinomatosis. Since the process was so widespread, it was obvious that nothing definitive could be done, and therefore, two of the pedunculated nodules were removed for biopsy.

The microscopic report was as follows: "This is a lipidic granuloma, having a structure like that of the so-called paraffinomas. The clear spaces represent oil droplets, from which the oil has been removed by solvents. Each droplet is surrounded by a thin layer of foreign body giant cells. It seems reasonable to relate the presence of this oil to the earlier oleothorax. The distribution suggests that the oil reached the peritoneal cavity directly rather than by distribution in the lymphatic system."

The patient had no abdominal symptoms in the next several years of observation. Apparently, unless obstructive phenomena develop through pressure or adhesions, these granulomatous masses do not adversely influence the prognosis.

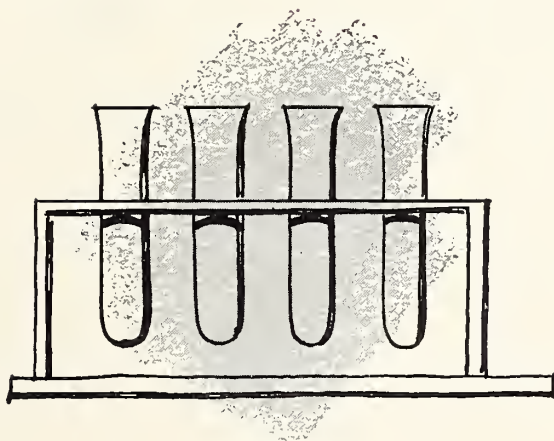
SUMMARY

Foreign material when deposited in the tissue, either from exogenous or endogenous sources, may stimulate a granulomatous response which is proliferative and causes nodule formation. When this reaction occurs on the surfaces such as the peritoneum, it is often grossly indistinguishable from widespread carcinoma or tuberculosis. The case presented is one in which, apparently, oil had been inadvertently introduced into the abdominal cavity. The ensuing typical reaction produced a confusing gross appearance resembling extensive carcinomatosis.

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California MEDICINE

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EDITORIAL

The A.M.A. Meeting

ONCE AGAIN the American Medical Association has completed the current version of what has come to be known as the "greatest medical meeting, on earth," the Annual Session. And once again new records were set in attendance and number of exhibits in this the largest and probably best scientific medical meeting ever held.

More than 56,000 registrants attended the meeting. They attended outstanding symposia, reports of recent research and reviewed some 700 scientific and industrial exhibits, many of which captivated not only physicians but the nation's press in their display of imagination, ingenuity and technical and professional skill. Modern therapy encompasses so many skills that each new development of technique and equipment necessarily engages the attention and admiration of those who view it.

On the business side of the meeting, the House of Delegates considered 115 resolutions and 28 reports, again a record number. The meetings and committee hearings of the House commanded the attention of the California delegation, which this year tied with New York in representation, having 13 delegates. Since the scientific developments of the meeting will be reported elsewhere in the months to come, the immediate concern of members of the California Medical Association should be with the decisions of the House of Delegates.

These decisions were most pleasing to the California delegates in that they followed the lines of various proposals emanating from the C.M.A. meeting earlier this year.

This was particularly true in the case of the proposed integration of the medical and osteopathic professions in California. Three resolutions on this subject came before the House of Delegates, as did the report of the Judicial Council of the A.M.A. and a second report from a special committee that was

set up two years ago to provide liaison with the American Osteopathic Association.

The liaison committee reported, in effect, that it saw no chance for progress in its dealings with the national osteopathic committee, that its work was done and it should be discharged and that any decisions on the parallelism or differences in medicine and osteopathy must be decided by the House of Delegates. The reference committee reviewing this report accepted these recommendations.

The reference committee then went further and adopted a statement of policy with regard to osteopathy: this statement was then approved by the House of Delegates.

This statement, which fits in closely with the philosophy followed in California in recent agreements with the California Osteopathic Association, points out that there has been a transition in osteopathy over the years and that today in many areas osteopathic medicine and surgery follows accepted medical lines and that the differences between the two professions have been largely eliminated. Where this has occurred, the statement holds, proper evaluation of similarities and differences should be made at state level. Where osteopathy has not made this transition, the established rules of ethical conduct must apply and must continue to proscribe voluntary professional association with those who are still considered to be cultists.

In the words of the statement, "The test now should be: Does the individual doctor of osteopathy practice osteopathy or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional associations with him are unethical. If he bases his practice on the same scientific principles as those adhered to by members of the American Medical

Association, voluntary professional relationships with him should not be deemed unethical."

Here, for the first time, is a true guide which physicians may follow where the determination of cultism has not been made by the state association. Here is complete authorization for the California agreement to be consummated without fear or chance of criticism on ethical grounds.

Another committee report of great interest was that of a special committee which has worked for two years to strengthen the profession's disciplinary controls over its members. The report, accepted by the House, calls for original jurisdiction to be lodged in the A.M.A. when a member has violated the ethical principles, even though action may not have been taken against him in his own state. It also urges the use of county society committees as "grand juries" to initiate action against erring members. A further recommendation was that the medical schools develop and give courses in ethics and in socio-economic principles of medicine.

This set of recommendations, adequately applied, would be most valuable in preventing or stopping unethical acts by physicians who might feel free to dare the present disciplinary procedures.

In the field of communications, the House voted to establish a committee of seven of its members "to study and continually advise the Board of Trustees on the broad planning and coordination of all phases of communications. . . ." This came from a California resolution and met with approval from all quarters.

Another important resolution introduced by California called for establishment of a committee de-

signed to study and review the responsibilities of the A.M.A. Board of Trustees and to consider the advisability of enlarging the Board and altering the terms of office of trustees. A report will be given by this committee at the Denver meeting late in November.

These are some of the more important decisions reached in New York on California proposals. Actions on all business of the House of Delegates were printed in the *Journal of the American Medical Association* for July 10, 1961. A summary prepared by Ed Clancy, director of public relations of the California Medical Association, is printed in this issue of CALIFORNIA MEDICINE, beginning on page 123.

In its elections the House of Delegates selected Doctor George M. Fister of Ogden, Utah, as President-Elect. It filled three vacancies on the Board of Trustees with Doctors Wesley W. Hall of Reno, Homer L. Pearson of Miami and Charles L. Hudson of Cleveland, the last-named to fill an unexpired term by reason of death. Among the important council posts, two Californians were honored, Doctor Robertson Ward with reappointment to the Judicial Council and Doctor Dwight L. Wilbur with election to the important Council on Medical Education and Hospitals.

From a California as well as a national point of view, the decisions reached at the New York meeting were of great importance and most satisfying. Together, these decisions will help the medical profession along the way to the best in medical service for all people. California may well be proud that its representatives had such a large part in the conclusions reached.



The President's Page



"Cadillac" Medicine

"Good things cost less than bad ones."

ITALIAN PROVERB

PERHAPS NO GROUP in a society might so easily distort quality or suppress errors as the members of the healing arts. Medicine has long recognized this test of its fiber and has created an elaborate and strict code of ethical conduct to discipline itself. Although this code is still an essential moral stabilizer in the profession, it is apparent that the enlightened American society of today needs more palpable evidence of quality.

Physicians have made great strides in establishing "internal controls"—such as tissue committees, privilege committees, mediation committees and, more recently, hospital-physician usage committees. Unfortunately the evidences of professional self-responsibility are still often not known or understood or appreciated by the public. Basing his judgment on the everyday lessons of life, the citizen feels that occult professional self-discipline may be rather empty or at least suspect, especially in its more subtle tones.

This suspicion is probably greatest at that penumbra of medical services called "quality." From the practical point of view of the average man, there is probably one paramount reason why he is willing to vote for physicians to remain outside of the govern-

ment—his fear of deterioration of quality in medical care should the system change.

At the time of a crisis in illness, each American wants for himself the best opportunity to return to health. He demands that he receive "Cadillac" medicine. He wants excellence, efficiency, flawlessness. Where these are the paramount ingredients the best is wanted and the cost is better understood and can be planned for.

Without quality assurance, medicine is too costly at any price. Medicine must keep quality foremost and devise ways to let the people understand what quality is, and to recognize it. This must be so regardless of the patient's financial resources. The patient must know that the office visits or hospital days are justified; he must be assured that the procedure is necessary, the drugs needed and the professional service excellent. This can be achieved by advertised and enlightened self-discipline, rigorous attention to honesty and, I believe, ultimately by participation of some carefully selected, responsible lay citizens in certain key committees. Has your society appointed a committee or reviewed its effectiveness in this critical area recently? If not, why not suggest it?

Harold B. B. B. M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

The A.M.A. Meeting

This "news and comment" report on the recent annual meeting of the American Medical Association was written by Mr. Ed Clancy, director of public relations of the California Medical Association.

LIKE THOSE at the recent meeting of the members of the House of Delegates of the California Medical Association, the delegates to the 110th Annual Meeting of the American Medical Association, June 25-30, 1961, at New York City, set a new record by action on 115 resolutions and 28 reports.

The growing volume, among other things, indicates the American doctors' increasing concern over a variety of matters revolving around the health care and welfare of the people of the United States; the maintenance of quality care while shielding the public against the inherent dangers in changing the control of the type and quality of care from the individual physicians to a bureaucracy.

The delegates also interested themselves in osteopathy, in better communications within the profession, in relations with other professions and in a variety of organizational matters.

In all these discussions the California delegation played an important part, and many times took the leadership in determining policies for American medicine.

Probably the most significant reason for all this is that the delegates are informed, they do their "home work" in advance of the meeting and they work at the convention.

Even before the delegation gathered in New York City, Dr. Dwight L. Wilbur, chairman, called a San Francisco meeting to formulate plans.

Then each day in New York a breakfast caucus was held promptly at 7:30 a.m. to review the matters to be decided at the reference committees and the meetings of the House.

Despite the humdrum and the monotonous attention to detail involved in considering such a volume

of resolutions, American medicine's determination to be free rang clear and loud above it all.

Shortly before the convention convened, the New York *Daily News* voiced violent objections to the San Francisco speech made by Abraham A. Ribicoff, Secretary of Health, Education and Welfare.

"Better Fight, Doctors," warned the *News*, and then continued:

"Throughout Ribicoff's speech, one could detect a veiled threat that, if the doctors don't play along with the politicians in furnishing more and more 'free' medical service, the politicians will take over the doctors.

"If that ever happens, the quality of medical service in this country will sink to Soviet Russian levels or below, and its costs—paid by the taxpayers—will go higher every year. The service won't be free, and it won't be good, and a lot of our best young minds will be frightened away from going into medicine.

"All this is an urgent cue to the doctors to fight the Kennedy Administration's Socialist medicine plans at least as fiercely as the American Medical Association has fought all other schemes, down the years, to chain the medical profession to the Wash-

WARREN L. BOSTICK, M.D.	President
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ington bureaucrats' high-rolling and free-wheeling chariot.

"In thus resisting these projects, the A.M.A. is fighting, not only to protect the doctors' independence, but also to maintain and constantly improve the quality of U. S. medical service, and to safeguard the best interests of all of us, sick or well."

The physicians certainly took heed of this storm signal flown by the newspaper with the largest circulation in America.

Before the convention ended, the delegates had given their approval to this "fight talk" by amending a report to the Reference Committee on Legislation and Public Relations dealing with opposition to the King-Anderson proposal for social security care of the elderly.

The amendment, introduced by Dr. Louis H. Bauer, former A.M.A. president and passed by a unanimous vote, stated:

"The House of Delegates of the American Medical Association records its opposition to any legislation of the King-Anderson type. Its opposition is based on the facts that such legislation does not meet the needs of the situation; interferes with the doctor-patient relationship; interferes with the rights of doctors employed in hospitals; is inordinately expensive; leads inevitably to further encroachments by government into medical care; results eventually in a deterioration of the type of medical care rendered the public; and is therefore detrimental to the public interest.

"The House of Delegates invites attention to the fact that the medical profession is the only group which can render medical care under any system and that the medical profession is best qualified to determine how the best medical care can be delivered.

"The House of Delegates believes that the medical profession will see to it that every person receives the best available medical care regardless of his ability to pay, and it further believes that the profession will render that care according to the system it believes is in the public interest and that it will not be a willing party to implementing any system which we believe to be detrimental to the public welfare."

California and three other states had resolutions dealing with medicine's image and its interpretation to the public by the A.M.A. executives.

The result was the passage of a combined statement which calls for the setting up of a seven-man committee from members of the House. In all probability a Californian will be on this committee "to study and continually advise the Board of Trustees on the broad planning and coordination of all phases of communications of the American Medical

Association, so that the public and the members of the medical profession are properly and adequately advised of the policies and concern of the medical profession with respect to all phases and aspects of medical care for all people. . . .

"That we have a very adequate Division within the A.M.A. capable of implementing any program of communications. The Communications Division of the A.M.A. needs the active support and cooperation of the House and of all members of the Association."

Along this "image problem" or whatever you wish to call it, may I suggest you get the July 7 issue of *Time* magazine and see how you and your American Medical Association are reported to your patients—your public. In the article, American medicine's position, I believe, is presented forcefully and well. Page one calls attention to higher costs, but it quickly adds "*Better Medicine*."

And, of course, the opinions of the "vocal minority"—some of them it seems are always from California—are reported also.

The most lengthy discussions in the House revolved around the Judicial Council's report, Osteopathy and resolutions from several states.

Practically all speakers complimented California on its solutions aimed at the eventual amalgamation with medicine.

Our position was explained by Warren L. Bosstick, C.M.A.'s President and floor spokesman for the delegation.

Since the important decisions will be referred to many times during the coming years, they are reported in full.

A.M.A.'s policy for the nation is as follows:

"1. There can never be an ethical relationship between a doctor of medicine and a cultist, that is, one who does not practice a system of healing founded on a scientific basis.

"2. There can never be a majority party and a minority party in any science. There cannot be two distinct sciences of medicine or two different, yet equally valid systems of medical practice.

"3. Recognition should be given to the transition presently occurring in osteopathy, which is evidence of an attempt by a significant number of those practicing osteopathic medicine to give their patients scientific medical care. This transition should be encouraged so that the evolutionary process can be expedited.

"4. It is appropriate for the American Medical Association to reappraise its application of policy regarding relationships with doctors of osteopathy, in view of the transition of osteopathy into osteo-

pathic medicine, in view of the fact that the colleges of osteopathy have modeled their curricula after medical schools, in view of the almost complete lack of osteopathic literature and the reliance of osteopaths on and use of medical literature, and in view of the fact that many doctors of osteopathy are no longer practicing osteopathy.

"5. Policy should now be applied individually at state level according to the facts as they exist. Heretofore, this policy has been applied collectively at national level. The test now should be: Does the individual doctor of osteopathy practice osteopathy, or does he in fact practice a method of healing founded on a scientific basis? If he practices osteopathy, he practices a cult system of healing and all voluntary professional associations with him are unethical. If he bases his practice on the same scientific principles as those adhered to by members of the American Medical Association, voluntary professional relationships with him should not be deemed unethical."

California's resolution favoring plans for broad coverage health insurance programs to stem governmental intervention received the unanimous endorsement of the reference committee and the voting delegates.

The resolved portions stated:

"That the Board of Trustees of the American Medical Association be commended for its activities in studying and developing plans for broad coverage health insurance in cooperation with the American Hospital Association and the Blue plans; and

"That the Board of Trustees accelerate its activities on this problem and also hold joint meetings with representatives of commercial insurance underwriters and of other interested groups in developing standardized types of broad coverage medical care insurance which can be made available nationally."

Feeling that the nine-man Board of Trustees should be enlarged to probably 15 members, the California delegation entered a resolution for study of the subject.

The resolution, practically as introduced, declared:

"That the Speaker of the House of Delegates appoint an ad hoc committee consisting of five elected members of the House of Delegates to study and review the responsibilities of the Board of Trustees and to recommend whether or not the present Board of Trustees should be enlarged and whether any change should be made in the terms of office of trustees as presently stated in the Association's Constitution and By-laws; and

"That this ad hoc committee report to the House of Delegates in Denver in November, 1961."

Texas physicians introduced a resolution in oppo-

sition to the compulsory use of generic names in prescribing drugs.

In approving it the House declared:

"The sponsors of this resolution emphasize that this does not mean that physicians should not use generic names, but they oppose the compulsion inherent in this kind of proposal."

On disciplinary matters, a report accepted by the House urged state and county medical societies to utilize public service committees (grievance committees) as "grand juries" to initiate action against an offender so as to obviate the necessity of making an individual member of a medical society complain against a fellow member.

In a long overdue move the House suggested that each medical school develop and present a required course in ethics and socioeconomic principles, and that each state board of medical examiners include questions on ethics and proper socioeconomic practices in all examinations for license.

The report concluded with a recommendation that "American medicine at the national, state and local level maintain an active, aggressive and continuing interest in medical disciplinary matters so that, by a demonstration of good faith, medicine will be permitted to continue to discipline its own members when necessary."

The House strongly endorsed a Board report which pointed out the problems that would result from amending the Food, Drug and Cosmetic Act to authorize the Food and Drug Administration to determine the efficacy, as well as the safety, of a prescription drug prior to the approval of a new drug application. The A.M.A. will oppose such legislation before the Kefauver Committee, the report pointed out, on the basis that "a decision with respect to the effectiveness of drugs is dependent upon extended research, experimentation and usage." The House agreed that vesting such authority in the Food and Drug Administration would operate to limit research, the marketing of drugs and the exercise of discretion by the medical profession. "The marketing of a relatively useless drug is infinitely less serious than would be the arbitrary exclusion from the market of a drug that might have been life-saving for many persons," the House declared.

Eight resolutions were introduced on the subject of creating new two-year residency training programs in general practice. The combined substitute resolution directing the Council on Medical Education and Hospitals to consider for approval other two-year programs in general practice which incorporate experience in obstetrics and surgery, was passed. The Council will review these programs on the basis of their individual merits and conduct a long-range evaluation of the new programs as well

as the previously established Family Practice Programs.

The House accepted a reference committee suggestion for establishment of a new Commission to Coordinate the Relationships of Medicine with Allied Health Professions and Services.

The commission will be composed of seven members appointed by the Speaker of the House. Subcommittees, composed of from three to five members selected by the commission from lists of names submitted by the scientific sections, will consider problems in specific areas.

The commission will correlate and catalogue the reports of the subcommittees and will act as liaison agent between the subcommittees and those A.M.A. Councils where there may be overlapping interests.

The House approved a report by the Council on Drugs on the present status of poliomyelitis vaccination in the United States and urged that it be made available to all physicians through the most effective communications media. The report clearly outlines procedures recommended for implementation of mass vaccination with the new oral vaccine when it becomes available. The House complimented the Council on its "clear and succinct statement on the initiation of the new campaign which will be needed to promote the new vaccine." The House agreed that the report provides the practicing physician with a reliable series of answers to the many questions which will arise during the change-over from Salk vaccine to oral vaccine. The report emphasizes, however, that "physicians should encourage, support and extend the use of Salk vaccine on the

widest possible scale at least until the oral poliovirus vaccines currently under development and clinical trial become available."

And, proving that the Board of Trustees is not always in touch with the "electorate," a recommendation to hold the 1963 Clinical Session in Las Vegas was overruled.

The more sober-minded delegates with Dr. Donald A. Charnock, a past C.M.A. president, leading the opposition, pointed out that the gambling capital of the nation was hardly the place to hold a convention of the leaders of American medicine.

After voting "no dice" for Las Vegas, the delegates then selected Portland, Oregon.

The inaugural ceremonies saw Dr. Leonard W. Larson, North Dakota, assume the presidency of A.M.A.

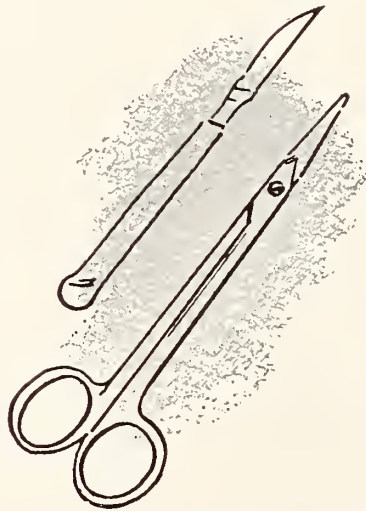
Dr. George M. Fister, Utah, a member of the Board of Trustees, was named president-elect.

Three new men assumed positions on the Board of Trustees. They are Drs. Wesley W. Hall, Nevada; Homer L. Pearson, Florida, and Charles L. Hudson, Ohio.

Dr. Robertson Ward, San Francisco, was renamed to the Judicial Council.

Dr. Wilbur was high man in a field of three candidates to take over the expired term of Dr. John W. Cline on the important Council on Medical Education and Hospitals.

Nearly 23,000 physicians from the fifty states were in attendance.



In Memoriam

BABCOCK, RAYMOND ARTHUR. Died in Willits, June 6, 1961, aged 71. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1912. Licensed in California in 1913. Doctor Babcock was a member of the Mendocino-Lake County Medical Society.



ENGELHORN, HAROLD MILTON. Died in Campo, May 2, 1961, aged 48, of heart disease. Graduate of the University of Southern California School of Medicine, Los Angeles, 1939. Licensed in California in 1939. Doctor Engelhorn was a member of the San Diego County Medical Society.



FRIEDMAN, HARRIS ALVAN. Died June 24, 1961, aged 35. Graduate of Northwestern University Medical School, Chicago, Illinois, 1948. Licensed in California in 1953. Doctor Friedman was a member of the Los Angeles County Medical Association.



HEWITT, REUEL EDWARD. Died in West Sacramento, June 12, 1961, aged 59. Graduate of State University of Iowa College of Medicine, Iowa City, 1925. Licensed in California in 1957. Doctor Hewitt was a member of the Placer-Nevada-Sierra County Medical Society.



HOLLEY, CHARLES A. Died in Los Angeles, June 17, 1961, aged 47. Graduate of Howard University College of Medicine, Washington, D. C., 1939. Licensed in California in 1946. Doctor Holley was an associate member of the Los Angeles County Medical Association.



JOHNSON, RICHARD PHILIP. Died in San Leandro, June 18, 1961, aged 51 of a coronary occlusion due to coronary arteriosclerosis. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1936. Licensed in California in 1936. Doctor Johnson was a member of the Alameda-Contra Costa Medical Association.



KLEINBERG, IRMGARD. Died in Los Angeles, April 6, 1961, aged 44, of a massive cerebral hemorrhage. Graduate of Latvijas Universitate Medicinas Fakultate, Riga, Latvia, 1941. Licensed in California in 1955. Doctor Kleinberg was a member of the Los Angeles County Medical Association.



LINDSLEY, ST. CLAIRE RANSFORD. Died June 23, 1961, aged 79. Graduate of the University of Oregon Medical School, Portland, 1923. Licensed in California in 1925. Doctor Lindsley was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



MARSHALL, HAROLD K. Died in Charlottesville, Virginia, June 25, 1961, aged 61, of a coronary occlusion. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1926. Licensed in California in 1931. Doctor Marshall was a member of the Los Angeles County Medical Association.

McDONALD, FRANK JAMES. Died in Monterey, January 16, 1961, aged 62, of pneumonia. Graduate of the University of Colorado School of Medicine, Denver, 1934. Licensed in California in 1936. Doctor McDonald was a member of the Monterey County Medical Society.



PALLAIS, ARTURO. Died May 6, 1961, aged 85. Graduate of Universidad Nacional de Guatemala Facultad de Ciencias Medicas, Guatemala, 1900. Licensed in California in 1919. Doctor Pallais was a member of the Los Angeles County Medical Association.



PALMER, JOSEPH A. Died June 16, 1961, aged 53. Graduate of New York Medical College, Flower and Fifth Avenue Hospitals, New York, 1936. Licensed in California in 1947. Doctor Palmer was a member of the Los Angeles County Medical Association.



POTTENGER, FRANCIS MARION, SR. Died in Los Angeles, June 10, 1961, aged 91. Graduate of Cincinnati College of Medicine and Surgery, Ohio, 1894. Licensed in California in 1895. Doctor Pottenger was a member of the Los Angeles County Medical Association, a life member of the California Medical Association, and a member of the American Medical Association.



SENELICK, MARIUS D. Died June 14, 1961, aged 70. Graduate of the University of Illinois College of Medicine, Chicago, 1915. Licensed in California in 1942. Doctor Senelick was a member of the Los Angeles County Medical Association.



STEVENS, WILLIAM E. Died in San Francisco, February 23, 1961, aged 83, of arteriosclerotic heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1899. Licensed in California in 1900. Doctor Stevens was a member of the San Francisco Medical Society, a life member of the California Medical Association, and a member of the American Medical Association.



USOW, JOHN MAURICE. Died June 14, 1961, aged 52. Graduate of Marquette University School of Medicine, Milwaukee, Wisconsin, 1934. Licensed in California in 1943. Doctor Usow was a member of the Los Angeles County Medical Association.



VOIGHT, CHRISTIAN E. Died in San Francisco, June 19, 1961, aged 76. Graduate of Georg-August-Universitat Medizinische Fakultat, Gottingen, Prussia, Germany, 1925. Licensed in California in 1926. Doctor Voight was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.



WYATT, BERNARD L. Died in Las Vegas, Nevada, June 22, 1961, aged 77. Graduate of New York University College of Medicine, New York, 1905. Licensed in California in 1920. Doctor Wyatt was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

CALIFORNIA MEDICAL ASSOCIATION

ANNUAL MEETING

**Fairmont Hotel
SAN FRANCISCO**

April 15-18, 1962

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than November 1, 1961.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 693 Sutter Street, San Francisco 2, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than November 1, 1961. (No exhibit shown in 1961, and no individual who had an exhibit at the 1961 session, will be eligible until 1963.)

Medical Motion Pictures

The Film Symposiums which attracted excellent attendance in 1961 will be continued in 1962.

Authors desiring to show films should send their applications to Motion Picture Division, C.M.A., 693 Sutter Street, San Francisco 2. All authors are urged to be present at the time of showing as there will be time allotted for discussion and questions from the audience after each film.

Deadline: December 1, 1961.

**PLANNING MAKES PERFECT
AN EARLY START HELPS**

SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY Jerome J. Sievers
4835 Van Nuys Boulevard, Sherman Oaks

ANESTHESIOLOGY Grant Fletcher
P. O. Box 569, Monterey

DERMATOLOGY AND SYPHILOLOGY . . . David R. Taylor
1237 R Street, Fresno 21

EAR, NOSE AND THROAT Henry L. Harris
3875 Wilshire Boulevard, Los Angeles 5

EYE Richard A. Westsmith
12 North El Camino Real, San Mateo

GENERAL PRACTICE A. Norton Donaldson
321 West Washington Avenue, Santa Ana

GENERAL SURGERY R. Bruce Henley
400 Twenty-Ninth Street, Oakland 9

INDUSTRIAL MEDICINE AND SURGERY . . . Peter L. Hoffman
3533 West Pico Boulevard, Los Angeles 19

INTERNAL MEDICINE Glenn A. Pope
2600 Capitol Avenue, Sacramento 16

OBSTETRICS AND GYNECOLOGY . . . Kenneth F. Morgan, Jr.
2010 Wilshire Boulevard, Los Angeles 57

ORTHOPEDICS Albert H. Rodi
2010 Wilshire Boulevard, Los Angeles 57

PATHOLOGY AND BACTERIOLOGY . Carl M. McCandless, Jr.
St. Joseph's Hospital, Buena Vista and Park Hill, San Francisco 17

PEDIATRICS R. Bruce Jessup
2151 Berkeley Way, Berkeley 4

PHYSICAL MEDICINE Karl H. Haase
Wadsworth General Hospital, V. A. Center, Los Angeles 25

**PREVENTIVE MEDICINE AND
PUBLIC HEALTH** Irving D. Litwack
2655 Pine Avenue, Long Beach 6

PSYCHIATRY AND NEUROLOGY . . . { Mark Zeifert
Henry S. Colony
Psychiatry: Mark Zeifert, 1065 S Street, Fresno 21
Neurology: Henry S. Colony, 411 Thirtieth Street, Oakland 9

RADIOLOGY Robert L. Scanlan
2131 West Third Street, Los Angeles 57

UROLOGY August Spitalny
3637 California Street, San Francisco 18

Maternal MORTALITY REPORTS

These case reports are taken from the files of the State Department of Public Health which, together with the California Medical Association, now sponsors the statewide studies of all maternal mortalities. Selected cases are here presented from time to time as a matter of interest and illumination to all physicians concerned with the practice of obstetrics. They are prepared by the Committee on Maternal and Child Care. It is hoped that a review of such significant cases will help to improve the welfare of future California mothers.

CASE NO. 4

THE PATIENT was 37 years of age, gravida 3, para 2. Her first pregnancy had been complicated by several episodes of vaginal bleeding and had terminated four weeks prematurely. The second pregnancy terminated with cramps and bleeding at the twenty-second week. Five years before her death the patient had had a dilatation and curettage for irregular uterine bleeding.

During the third pregnancy, the patient had two episodes of vaginal bleeding, one in the sixth month and one in the seventh. The second of these episodes led to admittance to hospital, and an obstetrical consultant there made a provisional diagnosis of a low-lying placenta or marginal placenta praevia (although the report notes no specific investigative techniques to confirm this). The consultant advised bed rest and careful observation and recommended that blood for transfusion be available. When the bleeding ceased in 24 hours, the patient was discharged from the hospital.

At the thirtieth week of pregnancy, the patient was admitted to the hospital in active labor and with ruptured membranes. The nurse's notes indicate that there was "quite heavy" bleeding at the time of admission, and this apparently continued during the two hours of labor required to accomplish spontaneous delivery of a child weighing 2 pounds 15 ounces. The records also indicate excessive bleeding during the delivery. The placenta was described as being delivered intact.

Shortly after delivery, the patient was transferred from the delivery room to a ward bed, where she was given ergonovine intravenously and one ampule of a vitamin K preparation. Intravenous infusion of 1,000 ml. of 5 per cent glucose solution was started. Again according to the nurse's notes, the patient continued to bleed heavily after the departure of the attending physician. He was called and returned about three hours after delivery, but the patient died one hour later—four hours postpartum.

There is no record of any order in the chart for crossmatching or for transfusion at any time. There is no record of any pelvic examination being done during the postpartum bleeding. The cause of death is stated on the death certificate as "Exsanguination due to retained placental fragment." Presumably, the secondary diagnosis was established by autopsy, but a copy of the autopsy report was not forwarded with the Maternal Mortality Study report.

COMMENT

The errors of omission in this case are blatantly obvious. Both the previous history and the conditions observed in the third pregnancy gave ample warning of the likelihood of the presence of a gravely dangerous hemorrhagic complication of pregnancy. Yet this warning was totally ignored at the time of her admission in labor and during her six hours of subsequent life—in the face of an obstetrician's recommendation during a previous bleeding episode that blood for transfusion be available. Apparently the extent of hemorrhage during the short labor and the delivery was either ignored or grossly underestimated. When the heavy bleeding continued postpartum, the patient was removed from the delivery room, although that is where the most efficient care could have been rendered. No attempt was made to determine the site of or the reason for the excessive bleeding; and the possibilities for both were multiple in this case. On hindsight, one judges that the patient's life might have been saved had simple intrauterine exploration (made virtually mandatory by the persistent postpartum hemorrhage) been carried out. Finally, when all indications were for blood transfusion, there had been at no time even an order for crossmatching. In this day of widely-distributed blood banks, failure to call upon their life-saving supplies for patients such as this one is still far too frequent. Herein lies the major reason why hemorrhage continues to be the number one killer of postpartum mothers.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

ALTHOUGH the reported incidence of paralytic poliomyelitis in California continues to be low, there remains the ever-present threat of an outbreak in the remaining groups of unvaccinated persons.

In communities where surveys have shown that the immunization level is dangerously low, the local health departments, medical societies and the National Foundation have recommended that volunteer community poliomyelitis vaccination clinics be organized. These nonprofit clinics are staffed by health department personnel, along with volunteer physicians, nurses and lay workers from the Parent-Teacher Association and other groups.

No major radiation safety problems were revealed by a protection survey of the medical and dental x-ray equipment used by the State Department of Corrections. At the request of the Department of Corrections, radiation protection surveys were conducted at Deuel, Corona, Chino, Folsom, Soledad, Las Padres and Tehachapi. Some 34 x-ray machines were surveyed.

Although no major radiation safety problems were found, a number of recommendations were made designed to bring equipment, facilities and practices to levels consistent with reducing radiation exposures to the lowest practicable amount.

A long range policy for water supply and sewage disposal in the entire Tahoe Basin was considered at a meeting in Tahoe City by representatives of state and local health departments from California and Nevada, the Interstate Compact Commission, State Department of Water Resources and Water Pollution Boards.

The meeting was called by the Lake Tahoe Area Council to brief its recently retained board of consulting sanitary engineers on existing state policies and the views of official departments regarding these problems.

The State Health Department stressed the importance of protecting the surface waters of the basin from the damaging impact of sewage or sewage effluent: taking into account not only the public health implications of such discharge, but the total spectrum of adverse effects on the quality of water in Lake Tahoe and the surface streams that would result from the discharge of wastes containing a high concentration of plant nutrients and other dissolved or suspended organic materials.

We also recommended that in addition to the two alternatives of land disposal and pumping effluent from the basin, which are under study by the consulting board, consideration be given to complete reclamation of water from sewage by storage of treated sewage for periods of approximately one year in a system of man-made impoundments not used by the public.

Tehama County has become the twelfth county to contract with the department for public health services. This means that 25,450 more Californians will benefit from public health programming designed to meet their needs in preventive medical services and sanitation.

Legislation adopted in 1953 authorized the State Health Department to participate with the governing bodies of counties of less than 40,000 population in a partnership agreement providing for the development and administration of basic public health services.

Other counties served through the Bureau of Public Health Contract Services are: Alpine, Amador, Calaveras, El Dorado, Lake, Mariposa, Modoc, Mono, Nevada, Sierra, and Trinity. The citizens of Glenn, Lassen, Tuolumne, and Siskiyou Counties are yet without local organized public health programs. These four counties contain less than 0.5 per cent of California's population.



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

WHY IS IT NECESSARY to "entertain" physician's wives in order to lure them to a meeting of the Woman's Auxiliary? Not too many years ago our programs were concerned mainly with the problems of the medical profession. Nowadays, the Auxiliary's projects in Legislation, Public Relations, Community Service, Nurse Recruitment, Health Careers, etc., are fed to the members in small capsules—the smaller, the better it is believed. The trend is to fashion shows, interior decorators and entertainment of all kinds.

Whose fault is it that this situation exists? Not completely the Auxiliary's. Many physicians do not believe in the work of the Auxiliary. They are blind to the necessity of a physician's wife's being fully educated, and aware of the stand taken by the county medical society on all phases of medical legislation, of the society's stand on local, state and national issues. More questions are asked of a physician's wife over a bridge table, in the beauty parlor, at the market and in other meetings about the pros and cons of any subject concerned with medicine, or hospitals, or doctors than are ever asked of the physician himself.

If every physician would insist that his wife be a member of the Woman's Auxiliary and attend the meetings, the women would be a powerful force in the field of public relations. How else can we answer the questions put to us, sometimes in a friendly and sometimes in a very unfriendly way? How can we answer for our husbands unless we know their stand on the questions being asked? How can we know what the questions might be until they are brought to our attention at the Auxiliary meeting—and along with them answers?

The swing from all serious to all entertainment is over. There are too many forces working against the best interests of good medical practice for us wives not to be concerned with knowing the answers. It is up to you men to supply the answers and see that your wives are at the meetings to get them. The Auxiliary will see that they get all the information possible—along with some fun and entertainment. A woman can swiftly spread information. Let us be sure she has the right information.

MRS. LYLE F. MURPHY

Second Vice-President

Program Chairman

Woman's Auxiliary to the

California Medical Association

INFORMATION

C.P.S.—Its Strengths and Weaknesses

The following, a supplement to the annual report of the Board of Trustees of California Physicians' Service that was published in the March 1961 issue of CALIFORNIA MEDICINE, was delivered at the 1961 Annual Session of the House of Delegates by Dr. John G. Morrison, chairman of the board.

CALIFORNIA's Blue Shield Plan was a pioneer, born in ferment, reared like Topsy, and only now appears to be reaching a stage of stable maturity. Your Board of Trustees feels that, in this era of maturity, the economic arm of the medical profession in California has an enormous undeveloped potential to further benefit the public and the profession.

To guide our course in the critical years ahead, the House of Delegates of the California Medical Association, the ultimate governing body of C.P.S., must, as never before, be aware of the strengths and weaknesses of your organization as seen by your Board of Trustees. I would like to briefly outline these today.

The foremost area of strength lies in our physician membership. Chart 1 shows the proportion, as of March, 1961, of all practicing physicians in the state who are members of C.P.S. The growth in number of practicing physicians as well as fluctuation in proportion of C.P.S. physician membership, at five-year intervals from 1940 through 1960, are shown in Chart 2.

This membership record seems to us all the more remarkable in light of the fact that a very great number of these physicians were too young to have experienced the flux and political furor which accompanied the establishment of this pioneer Blue Shield Plan. I think one can assume certain things from these facts—one, that medical socioeconomic pressures in 1961 closely resemble those of 1939, and, two, that this voluntary association reflects a sober, unemotional, professional appreciation of the necessity for this particular type of prepayment mechanism in our present and foreseeable economy.

When I say, "this particular type of prepayment mechanism," I refer to service benefits, a type of prepaid health plan for which there is increasing public pressure and demand. In California, C.P.S. is the only statewide mechanism which can meet this demand. Alternatives are either closed panels or arrangements of county societies available only within local areas.

A second great area of strength lies in our flexibility to adapt to change—change in the patterns of medical practice as well as change in the public's need. The voluntary sacrifice of a minor amount of individual economic self-determinism on the part of physician members has provided us with a corporate structure which has been relatively free to engage in pilot plans and other experimentation. With full use of these prerogatives and with physician support, we believe it possible to continue in the development of patterns of prepaid medical care previously considered impossible. The direct benefits to the public thus derived, not to mention the salutary effect on other underwriters of health insurance, cannot be measured in dollars alone.

A third area of strength lies in our subscriber membership as well as their loyalty to C.P.S. Chart 3 shows the fluctuation in patient membership. The first reduction in membership between 1950 and 1955 reflects the after-effects of the statewide split between C.P.S. and Blue Cross. The second dip two-

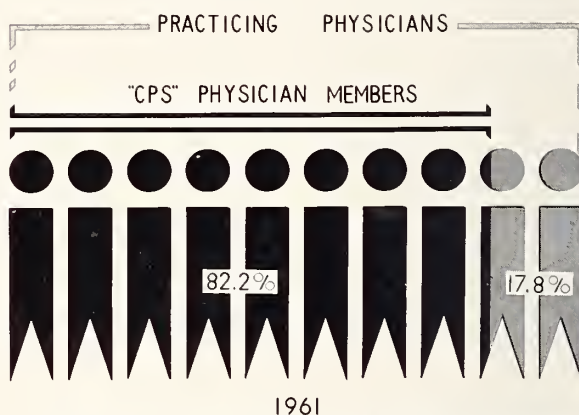


Chart 1.—The proportion, as of March, 1961, of practicing physicians in California who were members of California Physicians' Service.

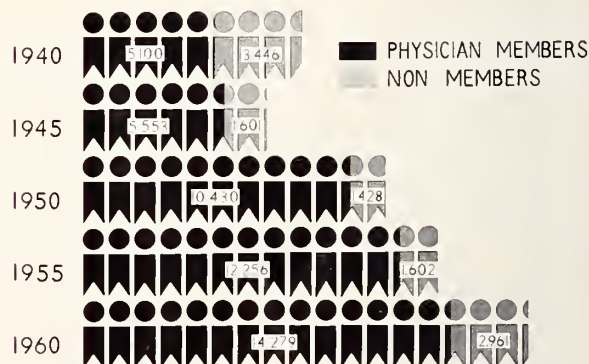


Chart 2.—Fluctuation in number of practicing physicians, as well as proportion of C.P.S. physician membership, at five-year intervals from 1940 through 1960. The reduction in number of practicing physicians in 1945 was due to the war.

thirds of the way between 1955 and 1960 reflects the economic recession of 1958. At the end of 1960, membership in the commercial programs stood at 971,068 persons.

Chart 4 shows the current C.P.S. patient membership structure. Under government, C.P.S. is administering as fiscal agent the Veterans Hometown Care Program, the Medicare Program, and a portion of the Public Assistance Medical Care Program.

As to subscriber loyalty, I should point out that the first two large groups to enroll in C.P.S., the California State Employees and Stacey's, Inc., are still on our books. Many other groups, including the California State Grange, have been with us for many years.

The proportion of California's population that has health coverage of one kind or another is shown in Chart 5, which also shows where this part of the population obtains its prepaid medical care. This chart demonstrates rather dramatically the relatively small (about 6 per cent) proportion of the population covered by C.P.S. in California. What it cannot portray—and I wish it could—is the considerable influence this insured group exerts on the other underwriters in this field, influence evidenced by upgrading of benefits and a more accurate coverage of both the public and the profession's needs in the entire field of prepaid health care.

In any self-appraisal, then, duration of membership, current enrollment and stature in the field must be considered as indices of C.P.S.'s effectiveness and vitality. By all these standards, I can report for your Board of Trustees, we measure up very creditably.

My report of C.P.S. strength would not be complete without further mention of our work with various government agencies. I have already mentioned our role as fiscal agents for the Veteran. Medicare and Public Assistance programs. Chart 6 shows the proportional relationship of payments made under these governmental programs to those in our commercial plans. This chart also depicts the growth between 1955 and 1960 in the volume of medical care provided by C.P.S. to government beneficiaries. It should also be noted that in 1955 the only governmental program administered by C.P.S. was that of the Veterans Administration. Participation in the varied governmental programs that we serve today gives us an opportunity to keep abreast of their thinking and future planning in this field as well as giving us access to valuable actuarial data. Through our provision of these fiscal services, tax dollars have been saved by low administrative cost and avoidance of the need of duplication of equipment and personnel on the part of the government.

"CPS" PATIENT MEMBERS (IN 000'S)

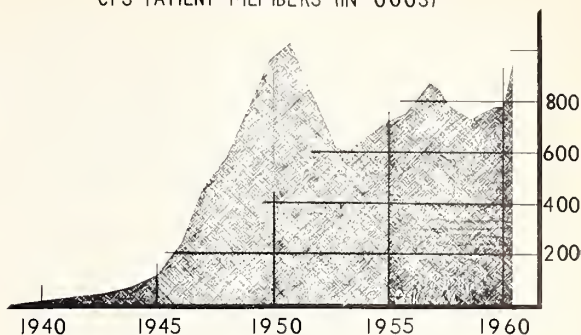


Chart 3.—Fluctuation in C.P.S. patient membership. The first reduction in membership midpoint between 1950 and 1955 reflects the effects of the statewide split between C.P.S. and Blue Cross. The second dip two-thirds of the way between 1955 and 1960 reflects the economic recession of 1958.

"CPS" MEMBERSHIP STRUCTURE
1961

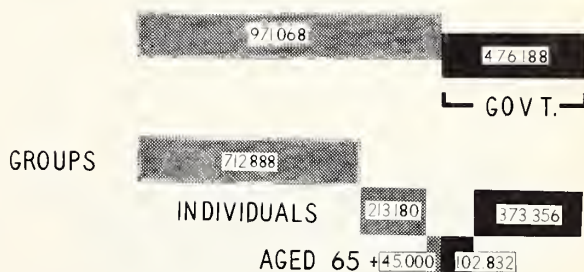


Chart 4.—Current C.P.S. patient membership structure. Under government contracts, C.P.S. is administering as fiscal agent the V.A. Program, the Medicare Program (which provides medical care for the dependents of the Armed Forces) and the Public Assistance Medical Care Program. The C.P.S. coverage of 45,000 in its own programs for those 65 years of age and over include persons still in groups, in extension of coverage by conversion and those individually enrolled.

CALIF. POPULATION WITH SOME HEALTH COVERAGE
1960

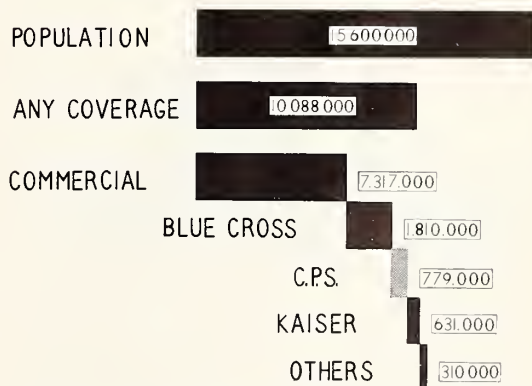


Chart 5.—Showing the proportion of California's population with health coverage of any type. Also shown is where this part of the population obtains its prepaid medical care.

Our final area of strength lies in the administrative "know how" that has developed over the years. Those of us who work closely with the lay administrative staff have the utmost confidence in their ability, their dedication and loyalty to the profession. Reasons for our confidence are evidenced by our strong financial position and the fact that, despite rising labor costs, administrative expense in relation to dues income has steadily decreased. Chart 7 shows a comparison of relative administrative costs between C.P.S. and the ten largest commercial insurance companies. Company A, for example, shows an administrative expense of 15 per cent, Company F shows 36.6 per cent. Incidentally, the volume of medical coverage written in 1960 varies between \$406,601,000 for Company A

C. P. S.
ADMINISTRATIVE EXPENSE AS A PERCENT OF INCOME



Chart 6.—C.P.S. administrative expense shown as a per cent of C.P.S. income since 1950. The reduction in administrative cost is apparent especially if the peak of 1952 is taken into consideration.

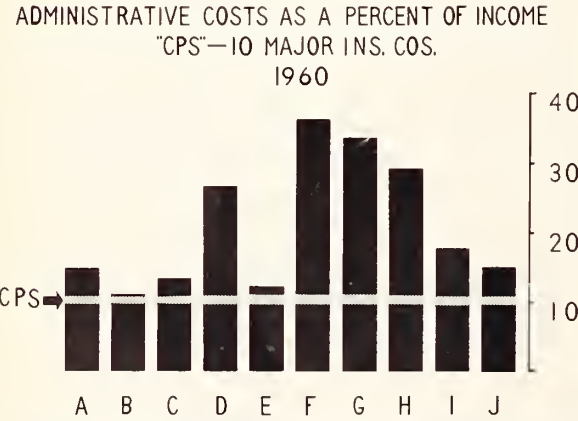


Chart 7.—A comparison of relative administrative costs between C.P.S. and the ten largest commercial health insurance companies. Company "A," for example, shows an administrative expense of 15 per cent. Company "F" shows 36.6 per cent. Incidentally, the volume of medical coverage written in 1960 varies between \$406,601,000 for Company "A" and \$88,195,000 for Company "F" during the calendar year 1960.

and \$88,195,000 for Company F during the calendar year 1960. As you can see, C.P.S.'s administrative expense of about 10 per cent compares favorably, and we are expecting even greater reductions in future years. The importance of this administrative expense ratio is made more dramatic by Chart 8, which shows a comparison of the portion of the income dollar returned to the patient in actual medical care as between C.P.S. and the 12 companies with the largest volume of health insurance in California. For example, of a total of \$133,000,000 in individual hospital and medical premiums paid in this state between 1957 and 1958, slightly less than \$61,000,000 was paid out in actual benefits. This amounts to only 46 cents of the dollar collected. During the same period, C.P.S. returned more than 80 cents on the dollar. Competent administration, then, permits us to expend maximal amounts of the dues dollar for services rendered, which, again, is evidence of our strength.

In summary, then, these are our main strengths: Physician membership, flexibility and freedom to experiment, subscriber loyalty, the ability to deal with government, and administrative "know how." The weaknesses are less numerous but are critically important. Over the past several years, the absence of realistic and uniform fee schedules and income provisions has been a severe handicap to C.P.S. in enrolling statewide and national groups. The old ratification process was painfully slow, and

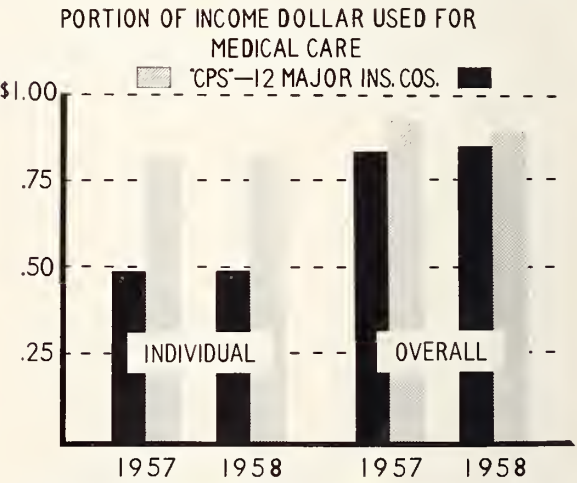


Chart 8.—A comparison of the portion of the income dollar returned to patient membership in actual medical care between C.P.S. and the twelve companies with largest volume of health insurance earned income in California. For example, of a total of \$133,000,000 worth of individual hospital and medical insurance written in California between 1955 and 1958, slightly less than \$61,000,000 (or only 46 cents on the dollar collected) was paid out in actual hospital and medical care benefits. During the same period C.P.S. returned more than 80 cents on the dollar. This slide shows similar comparison for individual policies and the overall of group and individual policies for 1957 and 1958.

not only inhibited C.P.S.'s ability to market effectively, but also delayed the introduction of more adequate fee schedules for professional services.

On studying this matter, the C.M.A.-C.P.S. Liaison Committee, which was formed as a result of action of this House last year, made recommendations to improve the fee schedule situation. With the C.M.A. Council's subsequent authorization to market two new fee schedules (D and E) on a state-wide basis, the problem has been significantly improved.

Even so, the fee schedule picture is extremely complex. There are some 15 different fee schedules now in effect around the state—some available state-wide, some available in single counties only, and some available in a group of counties. With this degree of fragmentation, many marketing problems still exist, and it is not difficult to visualize the problem which existed only a short time ago when only the lowest schedule was available statewide. These facts have given great comfort and satisfaction not only to C.P.S. competition, but also to backers of governmental schemes.

Another weakness that plagues all prepayment service organizations, including C.P.S., is the problem of educating the public as to the danger of experience rating.

The cost of a given prepaid or insured contract depends, for example, upon the type of underwriter (service or indemnity), the type of contract (group or nongroup), the range of benefits, geographic differences in hospital charges and physicians' fees, and the characteristics of the particular group or individual risk.

In recent years, the last factor, the characteristics of the specific risk, has become particularly important and has spread the practice of differential pricing (or experience rating) that was developed by the insurance industry, a practice that discriminates against the coverage of the marginal risk.

Sociologically, this situation is dynamite, and if the trend toward experience rating cannot be reversed, it is most probable that an explosion will occur which will demand, and in a large measure justify, government intervention. This is abundantly clear to the Blue plans, but they cannot reverse it alone. The insurance industry, the public, and the profession must help, too—and so far they have shown little intent to do so.

At present, C.P.S. is attempting to ride two horses in this regard, by "pooling" or community rating the higher risks (such as Continued Membership, small groups and contracts issued to individuals) and experience rating the highly competitive preferred risk groups. How much longer it can continue this practice is open to conjecture, since in bidding for preferred risk groups no allowance is

CPS PAYMENTS FOR MEDICAL CARE

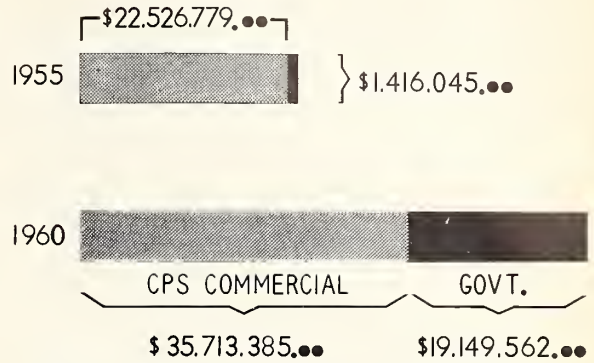


Chart 9.—The growth in volume of medical care provided by C.P.S. in 1955 and 1960. It should be noted here that the only government program administered by C.P.S. in 1955 was the V.A. program, while in 1960 C.P.S. administered the V.A., Medicare and Public Assistance Medical Care.

made by competition for expenses involved in meeting a social responsibility. This weakness—that is, being forced into experience rating—must be combated by intensive education of the public and the profession as to its potential danger. With unified support of the profession, C.P.S. is in a unique position to provide the leadership in this highly sensitive and important area of medical economics in the 60's.

The last and most disturbing weakness I wish to mention is in the area of professional relations, namely, physician support of the profession's creative imagination. We are weak and vulnerable as never before in this particular context. Many give only lip service to Blue Shield philosophy. Some confuse freedom and responsibility with free enterprise and the profit motive. Some apparently have memories of past injustices longer than their vision of accomplishment for the future. Only in our House of Delegates can these issues be faced and decided on their merits, but unity and cooperation on whatever decisions are made by the House were never more obviously necessary.

The problems that will face Medicine and C.P.S. during the decade ahead will be many and varied, just as they have been in the past. Some can be anticipated and planned for. Of these, the principal one is the position of government in the medical care field. What will it be, what will it mean to the medical profession and to voluntary prepayment? An answer may be found in a paragraph from the Somer's study of Private Health Insurance, published by the Institute of Industrial Relations, University of California, Berkeley:

"In the crucial stage of evolution immediately ahead, voluntary health insurance may determine

its own role and, indirectly, the role of government for many years to follow. If voluntary programs can succeed in taking the bold steps which offer some promise for coping with current and increasingly apparent inadequacies, the government role may continue in more or less the same pattern as at present. Otherwise, the growing volume of consumer demand, coupled with the financial crises of hospitals, medical schools, and other branches of medicine will lead to greater government intervention. At the moment, the power of decision still rests to a major extent with the providers of service and the insurance carriers. If they default or fail, the major influence in public policy determination may move into other hands."

The prophetic accuracy of this conservative statement, which was published in 1953 is already apparent in the plans of the present national administration.

If our national economic goal continues to be full employment—and it undoubtedly will—the demand for full service comprehensive benefits will become more and more insistent. A nation obliged to consume the goods and services of full employment will be so involved in the problem of financing pur-

chases that any unexpected expense will upset the family budget. Even today, most families live from pay check to pay check. So it takes no special insights to recognize that full service programs with comprehensive benefits will be in increasing demand, not because of public caprice, but because of very real economic pressures. It can be safely predicted that this demand will be satisfied in one way or another. We should be planning accordingly to offer such programs before we lose the chance.

In this and other areas of future planning, C.P.S. is uniquely prepared with actuarial data to do the research necessary for the development of new programs. But, as an agency of the medical profession, it must have broad and affirmative physician support if it is to market them effectively. By the word "effectively" is meant not only the successful conduct of the initial enrollment, but the maintenance of public satisfaction with a given program at the point of service. To the extent that such satisfaction is maintained, to that extent will Medicine's freedoms remain unchallenged by political proposals. But let us not forget, ever, that the final decision will be the public's.

Tumor Boards in California

The 1961-1962 Approved List

THE COMMISSION ON CANCER of the California Medical Association has actively promoted tumor boards for more than thirty years. Minimum standards and general guides for the operation of tumor boards have been published. The objectives of a tumor board are to offer consultation on cancer diagnostic and therapeutic problems to physicians of the hospital medical staff and the community, and to actively engage in a professional education program, utilizing whenever possible the experiences of the board as the focal point of the program.

The medical director of the commission surveys the tumor boards and presents his findings for action to the Committee on Consultative Tumor Boards, the section of the commission responsible for this phase of cancer control. The following list of tumor boards has been approved by the Commission on Cancer and the Council of the California Medical Association for 1961-1962. Copies of the Minimum Standards may be obtained from the Commission on Cancer, California Medical Association, 693 Sutter Street, San Francisco 2.

The asterisk (*) indicates provisional approval. The tumor boards so listed have not fully met the

standards for lack of time, inadequate case volume or other acceptable reasons, and this designation does not reflect upon the board.

TUMOR BOARDS IN CALIFORNIA

Approved by the Commission on Cancer of the California Medical Association

ALAMEDA COUNTY:

Berkeley
*Herrick Memorial Hospital
Castro Valley
*Eden Hospital
Oakland
Highland-Alameda Hospital
Kaiser Foundation Hospital
*Peralta Hospital
Samuel Merritt Hospital

KERN COUNTY:

Bakersfield
Kern County General Hospital
*Mercy Hospital and Nursing Home

BUTTE-GLENN COUNTIES:

Chico
Butte-Glenn Tumor Board

LOS ANGELES COUNTY:

Burbank
St. Joseph Hospital

* Asterisk denotes provisional approval.

LOS ANGELES COUNTY (continued) :

Covina

*Inter-Community Hospital

Glendale

*Memorial Hospital of Glendale

Inglewood

Centinela Valley Community Hospital

Long Beach

Long Beach Community Hospital

Los Angeles

California Hospital

Cedars of Lebanon Hospital

*Kaiser Foundation Hospital

Los Angeles County General Hospital

*Mount Sinai Hospital

Presbyterian Hospital—Olmsted Memorial

St. Vincent's Hospital

Temple Hospital

White Memorial Hospital

Lynwood

St. Francis Hospital of Lynwood

Pasadena

*C. P. and H. Huntington Memorial Hospital

St. Luke's Hospital

Pomona

Pomona Valley Community Hospital

Santa Monica

Saint John's Hospital

Torrance

Los Angeles County Harbor General Hospital

Van Nuys

Valley Hospital

MARIN COUNTY:

San Rafael

Marin County Tumor Board

Marin General Hospital

San Rafael Hospital

Ross General Hospital

MERCED COUNTY:

Merced

*Merced County General Hospital

MONTEREY COUNTY:

Carmel

*Peninsula Community Hospital

Salinas

*Monterey County Hospital

*Salinas Valley Memorial Hospital

NAPA COUNTY:

Imola

Napa State Hospital

ORANGE COUNTY:

Newport Beach

Hoag Memorial Hospital—Presbyterian

Orange

Orange County General Hospital

RIVERSIDE COUNTY:

Arlington *

General Hospital of Riverside County

SACRAMENTO COUNTY:

Sacramento

Sacramento County Hospital

SAN BERNARDINO COUNTY:

San Bernardino

San Bernardino County Charity Hospital

Upland

San Antonio Community Hospital

SAN DIEGO COUNTY:

La Jolla

Scripps Memorial Hospital

National City

Paradise Valley Sanitarium and Hospital

San Diego

Mercy Hospital

SAN FRANCISCO COUNTY:

San Francisco

Children's Hospital

French Hospital

*Kaiser Foundation Hospital

Mary's Help Hospital

Mount Zion Hospital and Medical Center

Presbyterian Medical Center

St. Francis Memorial Hospital

St. Joseph's Hospital

St. Luke's Hospital

St. Mary's Hospital

*San Francisco General Hospital

University of California Hospitals

Tumor Board

Visible Tumor Board

SAN JOAQUIN COUNTY:

Stockton

*San Joaquin General Hospital

SAN MATEO COUNTY:

Burlingame

*Peninsula Hospital

Redwood City

Sequoia Hospital

San Mateo

Mills Memorial Hospital

SANTA CLARA COUNTY:

Palo Alto

Palo Alto Stanford Hospital Center

San Jose

Santa Clara County Hospital

SONOMA COUNTY:

Santa Rosa

*Sonoma County Hospital

STANISLAUS COUNTY:

Modesto

Stanislaus County Hospital

TULARE COUNTY:

Tulare

Tulare County General Hospital

VENTURA COUNTY:

Ventura

*General Hospital Ventura County

YOLO COUNTY:

Woodland

Woodland Memorial Hospital

Changes Due to the Third Party

THE Physician-Patient Relationship Committee [of the San Francisco Medical Society] spent two years, 1958-1959, studying changes which have occurred in the traditional physician-patient relationship brought about by the introduction of the third party. The public is demanding complete medical protection and care and the role of the third party is becoming increasingly more important.

The method of study included interviews by committee members with hospital administrators and record room librarians of sixteen local hospitals, representatives of seven major medical insurance companies, as well as committees of the San Francisco Medical Society, the California Medical Association and the American Medical Association, which deal with these problems.

An attempt was made to determine current practices relating to this multiple party relationship and to define the problems as seen by these varying groups and to seek ways of overcoming them.

PROBLEMS AND COMPLAINTS

(A) Hospitals:

The hospital administrators and the record room librarians stated that there has been a marked increase in requests for information regarding insured patients in the past ten years. The policy of limiting information to the front sheet is fairly uniform but additional information is requested in about two per cent of the cases or two thousand cases per year in San Francisco. There is a definite relationship between the type of coverage a patient has and the number of requests for additional information that are received. The more restricted the coverage the more requests are received. Hospitals also complain that the patients generally are not fully informed about their coverage and this leads to a good deal of confusion and ill feeling. They blame both the doctor and the insurance company for this.

(B) Insurance Companies:

The insurance companies uniformly feel that they need and have a right to freer access to the patient's chart. They feel that doctors need policing because some doctors overcharge insured patients or extend hospitalization merely because the patient is insured. They also believe that sometimes doctors alter their diagnoses so that they can be covered by the patient's insurance. Insurance companies also believe that physicians do not discipline their colleagues effectively.

(C) Physicians:

Physicians feel that free access to a patient's chart will undoubtedly disclose information which may be misunderstood by lay personnel and may be injurious to the patient. They realize the right of privileged communication belongs to the patient and not to the doctor, and if the patient waives this right the physician can only comply. Physicians feel that insurance companies are not governed by a tradition or code of ethics which protects the privacy of the patient. Privacy and confidentiality have always been essential conditions of good medical practice. Physicians feel that restrictive types of coverage put an undue burden on them and that they should not be limited in their treatment of patients by the rules of an insurance company.

These varying opinions were discussed at length by the committee and the following recommendations were formulated.

RECOMMENDATIONS

[I] In regard to the form that health insurance coverage takes, the committee has these things to recommend:

1. This study indicates that the type of insurance carried by a given person or group is extremely important as to how much confusion and disagreement there is going to be in determining the rights and responsibilities of various interested parties. Accordingly, the committee recommends that the difficulty be thoroughly studied by present and future purchasers of health insurance.

2. The principles inherent in deductible or co-insurance are largely free of confusing and troublesome aspects. These two types of insurance are more easily administered, and more clearly lend themselves to the satisfactory delineation of the realistic rights and responsibilities of all parties.

3. According to this survey restricted coverage inherently places a serious conflict of interests between all parties involved and these conflicts of interests are basically insoluble.

4. Even though restricted coverage inherently contains an insoluble conflict of interests for the parties involved, so long as it continues to be issued there are some factors which will help to control and reduce the degree of conflict.

(a) Encourage doctors and/or doctors' office personnel to investigate the nature of the restrictions in the patients' insurance policy before undertaking elective hospital or office treatment. Arrange for a discussion of the facts of these restrictions with the patient, and arrive at a clear mutual understanding.

(b) Encourage doctors and/or doctors' office personnel to investigate the nature of the insur-

Reprinted from *The Bulletin* of the San Francisco Medical Society, May, 1961.

ance restrictions with the patient or patient's family as soon as possible after emergency hospital or office treatment. Hospital administrators have solved most of their problems by getting this information within the first twenty-four hours after hospital admission.

(c) Encourage insurance carriers, unions and employers to engage in a continuous explanation of the restrictions as well as the benefits of the insurance policy.

[II] In regard to the access to medical records and private communication, the committee has these things to recommend:

1. Extended coverage on a deductible or co-insurance basis. This will markedly reduce the need for access to records.

2. Doctors should:

- (a) Produce a standardized front sheet data form.
- (b) Use standardized diagnostic nomenclature for filling out insurance forms to reduce the need for access to records.

3. Insurance companies should:

- (a) Adopt a standardized procedure for processing claims.
- (b) Specify exact information desired in requests for supplemental information instead of sending the physician a general history form, to reduce the need for access to records.

4. Doctors should fill out initial forms completely, carefully and promptly, so that the need for access to records will be reduced.

5. Doctors should fully understand the need for additional inquiries by insurance carriers, and respond promptly and accurately to such inquiries so that the need for access to records will be reduced.

However, the committee recognizes that there are grave and just causes which require access to medical records, and the committee recommends in such situations:

1. If possible, have a doctor on the staff of the insurance company review the record with the permission and knowledge of the patient.

2. Consider creating a new profession or specially trained and certified lay personnel as medical record examiners, who would be inculcated with the importance of protecting the privacy of the patient as are medical record librarians. There might be possible

the passage of special regulatory laws as with internal revenue agents.

3. Have questioned claims examined by a special committee of the medical society.

4. Create a special physicians hospital committee to pass on necessary *vs.* unnecessary hospitalization, treatment, etc.

5. Doctors who actually abuse the financial interests of the insurance carriers and/or of the patients be suspended or removed or fined by the medical society, or if these are deemed inadequate, it is recommended that the offending doctors be prosecuted by California law as defined in the California Insurance Code 1957 edition, Section 556 which makes a fraudulent insurance claim punishable by imprisonment up to three years and by fine not exceeding \$1,000 or both.

[III] In regard to the problems of communication and education the committee recommends:

1. The doctors engage in a continuous education program on these matters by papers, seminars, hospital and society programs on the subject.

2. That hospitals and medical schools include instructions and seminars on these problems within their clinical training program.

3. That insurance companies engage in continuous efforts to promote better understanding of their problems and to make their positions understood and accepted by the doctors and the public.

4. That representatives of all groups involved in the problem of health insurance meet regularly with each other to coordinate their mutual efforts and interests, and to inform and educate the public.

[IV] The committee recommends that a letter of commendation be sent to the Bay Area Group Hospital Association for its initiative achievements in establishing policy to control and regulate the dissemination of patients' medical record information. We encourage them to continue and extend their work.

[V] The committee further recommends that the continuing study of "*The Doctor-Patient Relationship and the Third Party*" be undertaken by the Physician-Patient Relationship Committee of the San Francisco Medical Society, and that programming of the above recommendations be instituted by it.

JOHN D. RELFE, *Chairman*

*Physician-Patient Relationship Committee
San Francisco County Medical Society*

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

A grant of \$40,500 has been made to Dr. A. James McAdams, pediatric pathologist of Children's Hospital of the East Bay, Oakland, for a **research study on anoxic brain damage**. The grant, to cover a two-year period, has been made by the National Institutes of Health of the U. S. Department of Health, Education, and Welfare.

Dr. Florence Char, a cardiophysiologist, will be a co-investigator with Dr. McAdams. Jane Fraenkel-Conrat (Ph.D.), a biochemist, and Dr. Robert Whittlesey, a surgeon, will work with them.

LOS ANGELES

The name of the **College of Medical Evangelists**, under which that medical education center has operated for 56 years, was officially changed to **Loma Linda University**, effective July 1. The School of Medicine will continue to be located on two campuses, at least for the present, one at Loma Linda, where the first two years of the course will be given, and the other in Los Angeles. The address of the **office of the dean**, Dr. W. E. Macpherson, remains 1720 Brooklyn Avenue, Los Angeles 33.

* * *

Dr. George Canegeri, Redondo Beach, won the highest award at the 24th Annual Exhibit of the American Physicians Art Association which was held in New York City at the American Medical Association's annual meeting. Dr. Canegeri's entry was a landscape done in oil.

SAN DIEGO

The eleventh annual meeting of the **Southwest Obstetrical and Gynecological Society** will be held October 29 to 31, 1961, at the Koni Kae Club in San Diego. Further information may be obtained from Dr. Walter M. Ballard, 525 Hawthorn Street, San Diego 1.

SAN FRANCISCO

Raymond L. Hanson, San Francisco attorney, has been elected president of the board of trustees of **Presbyterian Medical Center**, succeeding John R. Little, who pioneered the development of the Medical Center and has been president of its board since it was created early in 1960.

F. D. Tellwright, executive vice-president of Pacific Telephone & Telegraph Co., and Fred H. Merrill, executive vice-president of Fireman's Fund Insurance Co., were elected vice-presidents, while M. A. Clevenger, executive vice-president of Canners League of California, was elected secretary and Uno Nordeen, who has just retired as general auditor of Southern Pacific Co., was elected treasurer.

J. Milo Anderson was reappointed executive vice-president of the Medical Center, and W. O. Geigenmuller, assistant vice-president.

Announcement was also made that Dr. L. D. Howard, Jr., had been elected president of the medical staff of the Medical Center, succeeding Dr. Forrest M. Willett who

had served in that position for two years. Dr. Edgar Wayburn was elected vice-president of the staff and Dr. Chester Herrod, secretary-treasurer.

GENERAL

A pre-test of a survey to learn more about the **practice characteristics and activities of physicians** in California has been under way for several weeks. A 1 per cent sampling is being conducted through a questionnaire by the Bureau of Research and Planning of the California Medical Association.

Following the evaluation of responses from the pre-test, the questionnaire will be revised, where necessary, and then sent to all physicians in the state, regardless of type of practice and status of affiliation with medical societies.

Physicians are requested to cooperate in these surveys by returning the questionnaire as promptly as possible. The data are expected to be particularly helpful to the California Medical Association and its committees in planning future activities and programs.

* * *

The **American Urological Association** is offering its annual award of \$1,000 (first prize of \$500, second prize \$300, and third prize \$200) for essays on the result of some clinical or laboratory research in urology. Competition is limited to urologists who have been graduated not more than ten years, and to hospital interns and residents doing clinical or laboratory research work in urology.

Full particulars may be obtained from the executive secretary of the association, Mr. William P. Didusch, 1120 North Charles Street, Baltimore 1, Maryland. Deadline for essays is November 15, 1961.

* * *

The Trustees of the Caleb Fiske Prize of the Rhode Island Medical Society have announced two subjects for this year's **essay contest**, which is open to any doctor of medicine in the nation. The subjects chosen are: "Recent Advances in the Treatment of Malignant Disease," and "Current Status of Cardiac Surgery." A prize of \$500 goes to the winner. Essays should not exceed ten thousand words and they must be submitted by December 11 to: Secretary, Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, Rhode Island.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Obesity and Adolescence. Saturday, 8:30 a.m. to 5:30 p.m., October 21. Eight hours. No fee.

For information on courses for physicians or ancillary personnel **contact**: Lowell A. Rantz, M.D., associate dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Clinical Traineeships — Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

General Pediatrics. Thursday evenings, September 21 through December 7. Harbor Hospital, Torrance.*†

Basic Science Course in Ophthalmology. Wednesday afternoons, September through April. Fee: \$175.00.

Teaching Clinics. September 21 through December 14, Thursday evenings, UCLA Medical Center, Room 13-105, 24 hours. Fee: \$60.00.

Low Back Pain. Saturday and Sunday, December 2 and 3.*

Peripheral Vascular Disease. Friday and Saturday, December 15 and 16.*

For information on courses for physicians or ancillary personnel *contact:* Thomas H. Sternberg, M.D., assistant dean for Continuing Medical Education, U.C.L.A. Medical Center, Los Angeles 24, BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Obstetrics and Gynecology. Thursday through Saturday, September 14 through 16. Twenty-one hours. Fee: \$40.00.

Internal Medicine—A Selective Review. Monday through Friday, September 18 through 22. Thirty-five hours. Fee: \$20.00 per day or \$90.00 per month.

Neuropsychiatry in General Practice. Thursdays, September 28 through November 2. Napa Hospital. Fee: \$5.00.

A Clinic on Human Disabilities. Friday and Saturday, September 29 and 30. Fourteen hours.*

Evening Lectures in Medicine. Oakland Hospital, Tuesday evenings, October 3 through November 21. Fee: \$35.00.

International Symposium on Bone: Clinical Application of Recent Advances. Saturday through Monday, October 7 through 9. Twenty-one hours. Fee: \$50.00.

Urology. Thursday through Saturday, October 12 through 14. Twenty-one hours. Fee: \$50.00.

Problems Due to Infection in Medicine and Surgery. Saturday and Sunday, October 28 and 29. Franklin Hospital. Fourteen hours. Fee: \$25.00.

Diagnosis in Ophthalmology. Thursday through Saturday, November 2 through 4. Twenty-one hours. Fee: \$60.00.

Problems of Adolescence. Children's Hospital, Saturday, November 4. Seven hours. Fee: \$12.50.

Alcohol and Civilization. Saturday through Monday, November 11 through 13. Twenty-one hours. Fee: \$25.00.

Psychiatry in General Practice. Napa State Hospital, Saturday and Sunday, November 18 and 19. Fourteen hours. Fee: \$25.00.

Hematology. Thursday and Friday, November 30 and December 1. Fourteen hours.*

Surgery of the Hand and Forearm. Friday through Sunday, December 1 through 3. Twenty-one hours. Fee: \$50.00.

External Diseases of the Eye. Thursday through Saturday, December 7 through 9. Twenty-one hours. Fee: \$50.00.

*Fees to be announced.

†Hours to be announced.

Skin Problems in Children. Saturday, January 13, 1962. Children's Hospital. Seven hours.*

Man and Civilization: Control of the Mind, Part II. Saturday through Monday, January 27 through 29. \$25.00.

Dermatology. Friday through Saturday, February 9 and 10. Fourteen hours.*

Child Development. Saturday, March 10. Seven hours. Children's Hospital.*

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Use of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

For information on courses for physicians or ancillary personnel *contact:* Department of Continuing Medical Education in Medicine and Health Sciences, University of California Medical Center, San Francisco 22, MOntrrose 4-3600, Ext. 665.

PRESBYTERIAN MEDICAL CENTER, SAN FRANCISCO

Retinal Detachment Course. September 4 through 6. Limited enrollment. Fee: \$100. *Contact:* Secretary, Presbyterian Medical Center Eye Bank, 2018 Webster Street, San Francisco 15.

Contact: Arthur Selzer, M.D., program committee chairman, Presbyterian Medical Center, Clay and Webster Sts., San Francisco 15, WEst 1-8000, Ext. 303 or 414.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advanced Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Intensive Review of Internal Medicine. Monday through Friday, September 11 through 22, 8:30 a.m. to 12:30 p.m., Los Angeles County Hospital. Fee: \$65.00.

Bedside Clinics and Set Clinics in Internal Medicine. Thursday evenings, October 5 through January 11, 1962, 7:30 to 9:30 p.m. Los Angeles County Hospital. Fee: \$65.00.

Dermal Pathology. Friday and Saturday, October 20 and 21. Ambassador Hotel. Fee: \$37.50 includes one luncheon and coffee break.

Funduscopy in Internal Medicine. Tuesday evenings, November 7 through November 28, 7 to 9 p.m. Los Angeles County Hospital. Fee: \$37.50. Enrollment limited to 20.

Review of Recent and Practical Problems in Medicine (Homecoming). Thursday and Friday, November 9 and 10, Statler Hotel, Los Angeles.*

Symposium on Anticoagulant Therapy. Friday, November 24. Fee: \$25.00.

Bedside Cardiology. Thursday evenings, February 8 through April 26, 1962, 7:30 to 9:30 p.m. Los Angeles County Hospital.

Refresher Course to be held in Western Europe. Dates to be announced.

Hawaii Course. Summer of 1962.

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

LOMA LINDA UNIVERSITY

Clinical Traineeships available in clinical departments by arrangement with Postgraduate Division and Postgraduate Chairman of department involved. In addition to those listed other traineeships in other departments can be arranged. Eighty hours minimum. Limited enrollment. Begin when individually arranged.

1. **Anesthesia.** Six months. 250 to 300 hours. Fee: \$350.00.
2. **Internal Medicine.** Two weeks to nine months.
3. **Pulmonary Diseases** (can be arranged).
4. **Traumatology.** One month. 160 hours. Fee: \$125.00.
5. **Urology** (can be arranged).

Alumni Postgraduate Convention. March 13 through 15, 1962, Ambassador Hotel, Los Angeles. *Contact:* Kenneth H. Abbott, M.D., general chairman, 316 No. Bailey Ave., Los Angeles 33.

For information contact: Division of Postgraduate Medicine, Loma Linda University, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE CIRCUIT COURSES

Sacramento Valley Counties in **Redding, Chico, Marysville,** and **Auburn** in cooperation with University of California San Francisco School of Medicine. Begins week of September 18, 1961.

North Coast Counties in **Eureka, Ukiah** and **Napa** in cooperation with Stanford University School of Medicine. Begins week of September 18, 1961.

West Coast Counties in cooperation with Stanford University School of Medicine on Friday, October 20, 1961, at Sister's Hospital, **Santa Maria**, and on Saturday, October 21, 1961, The General Hospital, **San Luis Obispo**.

POSTGRADUATE INSTITUTES—1962

Southern Counties in cooperation with University of California Los Angeles School of Medicine. Balboa Bay Club, Balboa. February 8 and 9, 1962. *Chairman:* Bertram L. Tesman, M.D., 1781 West Romneya Drive, Anaheim, California.

West Coast Counties in cooperation with University of Southern California School of Medicine, Del Monte Lodge, Pebble Beach. March 8 and 9, 1962. *Chairman:* Joseph E. Turner, M.D., 1073 Cass Street, Monterey.

North Coast Counties, in cooperation with Stanford University School of Medicine. Hoberg's Resort, Lake County. March 29 and 30, 1962. *Chairman:* Lucius L. Button, M.D., 1102 Montgomery Drive, Santa Rosa.

San Joaquin Valley in cooperation with University of California San Francisco School of Medicine. Ahwahnee Hotel, Yosemite. May 3 and 4, 1962. *Chairman:* Samuel Ross, M.D., 2946 Fresno Street, Fresno.

Sacramento Valley Counties in cooperation with Loma Linda University. Lake Tahoe. June 21 and 22, 1962. (Chairman to be announced.)

AUDIO-DIGEST FOUNDATION

A nonprofit subsidiary of California Medical Association, offers a subscription series of hour-long tape recordings condensing highlights of important literature and leading national meetings. Designed to be heard in the automobile, home or office. Six different services are offered

—General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, and Anesthesiology. Also, just compiled and released is a Catalog of Classics, offering panel discussions and symposia on specific subjects in all specialties. For information contact Mr. Claron L. Oakley, Editor, 619 So. Westlake Avenue, Los Angeles 57, Hubbard 3-3451.

Medical Dates Bulletin

SUMMER MEETINGS

NEVADA STATE MEDICAL ASSOCIATION 58th Annual Meeting and 11th Annual Conference of the Reno Surgical Society. August 23 through 26. Reno, Nevada. *Contact:* Mr. Nelson B. Neff, Exec. Secretary, Nevada State Medical Association, 506 Humboldt St., Reno.

PACIFIC DERMATOLOGIC ASSOCIATION Annual Meeting. Hotel Utah, Salt Lake City, Utah, August 30 through September 2. *Contact:* Edward J. Ringrose, M.D., secretary-treasurer, 2828 Telegraph Avenue, Berkeley 5.

SEPTEMBER MEETINGS

NATIONAL KIDNEY DISEASE FOUNDATION, Inc. First Kidney Disease Symposium, Ambassador Hotel, Los Angeles, September 13, 9:00 a.m. to 5:00 p.m. Fee: \$12.50 (includes lectures and lunch). *Contact:* Mrs. Jean Gordon, administrative assistant, 1227½ South La Brea, Los Angeles 19.

LOS ANGELES PEDIATRIC SOCIETY Meeting. The use of Amphetamine Tranquilizers and Psychic Energizers in Pediatrics, September 14, 6:30 p.m. Los Angeles County Medical Association Building, 1925 Wilshire Boulevard, Los Angeles. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.

ST. JOHN'S HOSPITAL Postgraduate Assembly, September 14 through 16. St. John's Hospital, 1328 22nd St., Santa Monica. *Contact:* John C. Eagan, M.D., director, 1328 22nd St., Santa Monica.

SANTA BARBARA COUNTY HEART ASSOCIATION Sixth Annual Symposium on Cardiovascular Disease. September 16, 9 a.m. to 5 p.m. Santa Barbara Biltmore Hotel. *Contact:* Mrs. Sara Clyde, executive director, 18 La Arcada Court, Santa Barbara.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention. September 17 through 20. Olympic Hotel, Seattle, Wash. *Contact:* R. W. Neill, 1309 7th Ave., Seattle.

SAN FRANCISCO HEART ASSOCIATION 31st Annual Postgraduate Symposium. September 27 through 29, St. Francis Hotel, San Francisco. *Contact:* Gene Taylor, executive director, 259 Geary Street, San Francisco 2.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting. September 29 through October 1. Hotel del Coronado, Coronado. *Contact:* Philip L. Pillsbury, M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

OCTOBER MEETINGS

KAISER FOUNDATION HOSPITALS IN NORTHERN CALIFORNIA Fifth Annual Symposium on Immunology and Autoimmune Disease. October 6 and 7, Fairmont Hotel, San Francisco. *Contact:* Martin A. Shearn, M.D., director of medical education, 280 West MacArthur Blvd., Oakland.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION Western Occupational Health Conference, October 6 and 7, Biltmore Hotel, Los Angeles. *Contact:* B. M. Brundage, M.D., Medical Director, Atomics International, P. O. Box 309, Canoga Park, Calif.

LOS ANGELES COUNTY HEART ASSOCIATION Professional Symposium. October 11 and 12. 9 a.m. to 5 p.m., Statler Hilton Hotel, Los Angeles. *Contact:* Manuel Siegel, program director, 2405 W. 8th St., Los Angeles 57.

SEQUOIA HOSPITAL FOURTH ANNUAL SYMPOSIA, "Man and His Environment." October 14, 8:30 a.m. Sequoia Hospital, Redwood City. *Contact:* Eldon E. Ellis, M.D., program chairman, Sequoia Hospital, Redwood City.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Scientific Assembly. October 15 through 18. Statler Hilton Hotel, Los Angeles. *Contact:* William W. Rogers, Exec. Secretary, 461 Market Street, San Francisco 5.

SOUTHWESTERN MEDICAL ASSOCIATION 43rd Annual Meeting, October 19 through 21. Tropicana Hotel, Las Vegas, Nevada. Registration: \$25 (includes 2 roundtable discussion luncheons). *Contact:* Mott, Reid, and McFall, 310 North Stanton Street, El Paso, Texas.

WEST COAST PSYCHOANALYTIC SOCIETIES Meeting, Beverly Hills, October 21 and 22. *Contact:* Executive Secretary, Los Angeles Institute for Psychoanalysis, 344 North Bedford Drive, Beverly Hills.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, Fullerton, October 22, all day beginning at 8:30 a.m. *Contact:* B. L. Tesman, M.D., St. Jude Hospital, Fullerton.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, INC., October 22 through 27, Statler Hilton, Los Angeles. *Contact:* Mr. John W. Andes, executive secretary, 515 Busse Highway, Park Ridge, Illinois.

CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS Fall Meeting, Woodland, Calif., October 25 and 26. *Contact:* Donald G. Davy, M.D., assistant to chief, Division of Community Health Services, Dept. of Public Health, Berkeley 4.

KERN COUNTY GENERAL HOSPITAL Postgraduate Conference and Alumni Day, October 27, 7:30 a.m. to 5:00 p.m. *Contact:* George A. Paulsen, M.D., chairman. Postgraduate Conference Committee, Kern County General Hospital, 1830 Flower Street, Bakersfield.

SAN DIEGO COUNTY HEART ASSOCIATION Eleventh Annual Symposium. San Diego Veterans War Memorial Building, October 27 and 28. *Contact:* O. M. Avison, executive director, 3545 Fourth Avenue, San Diego 3.

NOVEMBER MEETINGS

AMERICAN COLLEGE OF PHYSICIANS Southern California Region 4th Annual Basic Science Lecture Dinner. Statler Hilton, Los Angeles, November 1, 6:30 p.m. *Contact:* George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.

SAN DIEGO COUNTY GENERAL HOSPITAL Fifteenth Annual Postgraduate Assembly. November 1 and 2. No registration fee. *Contact:* David E. Wile, M.D., chairman, San Diego County General Hospital, San Diego.

LOS ANGELES PEDIATRIC SOCIETY (of Los Angeles County Medical Association) Annual Brennmann Lecture Series. Ambassador Hotel, Los Angeles, November 8 and 9. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.

PACIFIC COAST FERTILITY SOCIETY Tenth Annual Meeting, El Mirador Hotel, Palm Springs, November 9 through 12. *Contact:* Gregory Smith, M.D., secretary, 909 Hyde Street, San Francisco 9.

SAN DIEGO CHAPTER, CALIFORNIA ACADEMY OF GENERAL PRACTICE Fifth Annual Meeting. November 9 through 11, Riviera Hotel, Las Vegas. *Contact:* George H. Burkhart, M.D., 514 Third Ave., Chula Vista.

WESTERN SURGICAL ASSOCIATION, November 29 through December 1, St. Francis Hotel, San Francisco. *Contact:* Walter W. Carroll, M.D., secretary, 700 N. Michigan Ave., Chicago 11.

DECEMBER MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS Seventh Annual Postgraduate Course on Diseases of the Chest. December 4 through 8, 9:00 a.m. to 5:00 p.m. daily, Statler Hilton Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut Street, Chicago 11, Illinois.

1962 MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Sixth Midwinter Professional Symposium, January 10, Statler Hilton Hotel, Los Angeles. *Contact:* Edward Shapiro, M.D., chairman, Professional Symposium Committee, Los Angeles County Heart Association, 2405 W. 8th Street, Los Angeles 57.

AMERICAN COLLEGE OF SURGEONS Sectional Meeting. Statler-Hilton and Biltmore Hotels, Los Angeles, January 29 through February 1. *Contact:* William E. Adams, M.D., secretary, 40 E. Erie Street, Chicago 11.

TUBERCULOSIS AND HEALTH ASSOCIATION OF CALIFORNIA Annual Meeting. El Cortez Hotel, San Diego, February 7 through 10. *Contact:* Mr. Wm. Phraener, coordinator, public relations, 130 Hayes Street, San Francisco.

AMERICAN COLLEGE OF PHYSICIANS ANNUAL SOUTHERN CALIFORNIA Regional Meeting. El Mirador Hotel, Palm Springs, February 16 through 18. Submit abstracts to Walter S. Graf, 3701 Stocker Street, Los Angeles, by Nov. 1, 1961. *Contact:* George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.

PACIFIC COAST SURGICAL ASSOCIATION Annual Meeting. Sheraton Hotel, Portland, Oregon, February 18 through 21. *Contact:* Carleton Mathewson, M.D., Presbyterian Medical Center, San Francisco.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series. Evening of March 6 and all day March 7, Statler Hotel, Los Angeles. *Contact:* R. W. Watson, 504 So. Sierra Madre Boulevard, Pasadena.

ANESTHESIA SECTION OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION Seventh Annual Spring Postgraduate Meeting. Statler Hilton, Los Angeles, March 10 and 11. *Contact:* Thomas W. McIntosh, M.D., 686 East Union Street, Pasadena.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, INC., Biltmore Hotel, Los Angeles, March 21 through 24. *Contact:* Dr. Marion F. Langer, 1790 Broadway, New York 19.

INTERNATIONAL COLLEGE OF APPLIED NUTRITION Annual Convention. Huntington-Sheraton Hotel, Pasadena, March 22 and 23. *Contact:* Donald C. Collins, M.D., secretary, Suite 503, 7046 Hollywood Blvd., Hollywood 28.

AMERICAN ACADEMY OF GENERAL PRACTICE. Las Vegas, Nevada. April 6 through 13. *Contact:* Mr. Mac F. Cahal, executive director, Volker Blvd. at Brookside, Kansas City 12, Mo.

CALIFORNIA MEDICAL ASSOCIATION Annual Session. San Francisco. April 15 through 18, 1962.



THE PHYSICIAN'S *Bookshelf*

ATLAS OF OBSTETRIC TECHNIC—Deluxe Edition—J. Robert Willson, M.D., M.S., Professor of Obstetrics and Gynecology, Temple University School of Medicine, Philadelphia, Pa., Head of the Department of Obstetrics and Gynecology, Temple University Hospital, Philadelphia, Pa., 1961. 304 pages, \$14.50. (Also available in a Regular Edition at \$12.50.)

In 1943 the late Paul Titus was the author of an obstetric atlas that was sufficiently popular to warrant a second edition in 1949. The present atlas bears at least a superficial resemblance to Titus's volume and is the work of the same publisher, but in all other respects it is an entirely new venture designed to display a set of original drawings by Daisy Stillwell. The procedures illustrated are those in current use by Willson and his associates at the Temple University Medical Center in Philadelphia. While the drawings for the most part are excellent and informative, some of them are poorly arranged on the plates so that there is much wasted space on the page. Many appear not to have been planned specifically for the space available, and this lends a rather distressing unevenness to the pictorial composition.

A large section is devoted to normal labor, including management of the third stage. The largest segment of the book, as one would expect, deals with forceps operations, but there are sizable chapters on breech delivery, cesarean section, and transverse presentations. The maneuvers shown on each plate are described briefly on the facing pages, and some of the sections have a few introductory pages of text on such matters, for example, as delivery room facilities, analgesia, indications for forceps, and other topics not requiring illustration.

This atlas, according to a statement in its preface, was prepared to aid particularly the resident in training and the general practitioner confronted with a mechanical problem of labor or delivery. For them, as well as for many obstetric specialists, it can be warmly recommended as an adjunct to the standard textbooks.

C. E. McLENNAN, M.D.

* * *

DIRECT ANALYSIS AND SCHIZOPHRENIA—Clinical Observations and Evaluations—O. Spurgeon English, M.D., Professor and Head, Dept. of Psychiatry; Warren W. Hampe, Jr., M.D., Associate in Psychiatry; Catherine L. Bacon, M.D., Clinical Professor of Psychiatry; and Calvin F. Settlege, M.D., Associate Professor of Psychiatry—all of Temple University Medical Center, Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 128 pages, \$4.25.

"Direct analysis is the name given to a psychotherapeutic treatment of schizophrenia. The name was suggested years ago by a colleague of John M. Rosen, M.D., for the particular psychotherapeutic technique used by him."

Thus begins the introduction to this book. The authors are four physicians who were observers of the treatment of schizophrenic patients with direct analysis by Dr. Rosen at the Temple University Medical Center. The book consists of four papers, one written by each of the authors.

The initial paper by Dr. English is the broadest of the four, since it gives some general description of the treatment technique and describes various psychodynamic elements of it.

Dr. Hampe's paper attempts to correlate the treatment method with his own hypothesis concerning the psychic structure of the schizophrenic.

Dr. Bacon's paper deals with those aspects of Rosen's treatment methods which are related to the identity problems of schizophrenic patients. It attempts to integrate Dr. Rosen's methods with Dr. Bacon's concept of the dynamics of schizophrenic illness.

Dr. Settlege's paper includes verbatim reports of two consecutive interviews with one patient by Dr. Rosen, and comments on these interviews and the techniques used by Dr. Rosen, as Dr. Settlege perceived them.

This review does not properly concern itself with Dr. Rosen or his treatment. Suffice it to say that his approach and techniques are dramatic, provocative and controversial. The four authors of the book differ in some ways as to what they believe Dr. Rosen is doing. They point out that his success, to the extent to which he is successful, may not be due to what he says he is doing, but to unplanned aspects of his impact on the patient. Similarly, it may be pertinent for the reviewer to point out to readers of the book that the author's hypotheses as to what Dr. Rosen is doing may be equally inexact. They, as well as he, may be interpreting what happens in the light of their personal hypotheses about patients and the schizophrenic illness. With this caution made explicit, the book can be recommended to psychiatrists and physicians with an interest in psychiatry (and particularly schizophrenic illness) who may be curious as to what Dr. Rosen's direct analysis consists of and how other psychiatrists may see it.

D. A. SCHWARTZ, M.D.

* * *

HANDBOOK OF PEDIATRICS—Fourth Edition—Henry K. Silver, M.D., Professor of Pediatrics, University of Colorado School of Medicine, Denver, Colorado; C. Henry Kempe, M.D., Professor of Pediatrics and Head, Department of Pediatrics, University of Colorado School of Medicine, Denver, Colorado; and Henry B. Bruyn, M.D., Associate Professor of Pediatrics and Medicine, University of California School of Medicine, San Francisco, California. Lange Medical Publications, Los Altos, California, 1961. 574 pages, \$3.50.

The appearance of the fourth edition of the Handbook of Pediatrics in the space of six years attests to its popularity. A French edition has just been published and Spanish, Japanese and Greek editions are in preparation. This concise book which fits the pocket, like others in the series, is especially popular with medical students and members of hospital house staffs to whom it serves as an up to date and ready reference on pediatric diagnosis and treatment. It is intended to supplement, rather than replace, more complete pediatric texts and the over-simplification and dogmatism it occasionally displays is intentional and inherent in this type of publication.



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Research in the Service of Medicine

Head-Tilt Resuscitation Subject of Two Studies

Further evidence of the effectiveness of the head-tilt method of artificial resuscitation has been obtained from two new studies reported in the May 20 *Journal of the American Medical Association*.

An x-ray study showed that the head-tilt maneuver is "a reliable, simple, versatile method of clearing the upper airways for mouth-to-mouth and mouth-to-nose artificial respiration."

The second study indicated that the obstacles presented by convulsions in a person requiring artificial respiration could be surmounted by the head-tilt mouth-to-nose technique.

The mouth-to-nose technique was recommended for anyone who is in danger of respiratory failure during convulsions by James O. Elam, M.D., Buffalo, N. Y.; Arne M. Ruben, M.D., Karlskrona, Sweden; David G. Greene, M.D., Buffalo, and Theodore J. Bittner, R.N., Buffalo.

Convulsions create problems for the rescuer because the victim's airway closes intermittently, his jaw becomes unmanageable and his oxygen requirements are increased.

The authors cited three cases in which mouth-to-mouth resuscitation was hindered in three drowning victims because their teeth clenched as a result of convulsions.

The researchers used the mouth-to-nose technique

to resuscitate 12 psychiatric patients during routine electro-convulsive therapy. In 36 trials, it proved effective in every case, the authors reported.

The study shows that this technique is feasible in convulsive persons with tightly contracted chest muscles and spasmodic contractions of the jaw muscles, the authors said. The technique may be of use to parents, nurses, and attendants charged with the care of epileptics, they added.

The x-ray study of 15 subjects showed that tilting back the victim's head as far as possible separated the base of the tongue from the back of the throat and created a wide-open airway from lungs to nose and mouth.

An accompanying editorial in the *Journal* said all rescuers should be taught this maneuver.

The x-ray study was reported by Drs. Elam, Greene, Allen B. Dobkin, M.D., Syracuse, and Clayton L. Studley, R.N., Buffalo.

Director Appointed for Honors And Scholarship Program

(Continued from Page 46)

statewide study of real estate education and research needs in California.

He became affiliated with the State Scholarship Commission in January of 1958.

Dr. Smith is married and the father of two children.

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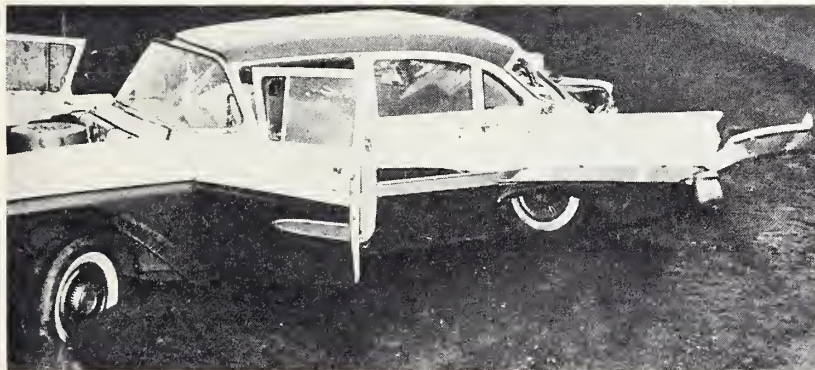
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(Official Photo, California Highway Patrol)

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The belt is made of heavy nylon webbing, capable of withstanding 6,000 pounds pressure per square inch. The buckle is the metal-to-metal type with an easy-connect and quick-release feature.

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Hypnosis Course for Physicians At U. of Pennsylvania

The first full-scale course on hypnosis for practicing physicians in a medical school is being given at the University of Pennsylvania, Philadelphia.

The development of more such courses in the next 10 years was predicted by Drs. Harold Rosen and Leo H. Bartemeier, Baltimore, in the March 18 *Journal of the American Medical Association*.

Seventeen physicians enrolled in a pilot course on hypnosis that ran from February to April of last year at Pennsylvania's Graduate School, they said. The regular course began last December and runs until June of this year, they said.

The course is being offered by the Department of Psychiatry and hypnosis is listed as a psychiatric technique in accordance with A.M.A. policy, the authors said. However, they stressed that the use of hypnosis should not be limited to psychiatrists and added that one section of the course was planned for physicians in general practice or in the non-psychiatric specialties.

The two psychiatrists said it has "long been recognized that mere instruction in the mechanics of how to hypnotize is inadequate for medical purposes."

"Adequate training in the subject can be offered only in medical schools and teaching hospitals, within departments of psychiatry in conjunction

with those departments of the medical school or hospital in which the physician in training is primarily interested (obstetrics, surgery, etc.). Such instruction . . . cannot be on a short-time basis."

External Heart Massage Successful in 62 Cases

The successful use of external massage in restoring the heart beat of 62 patients was reported in the May 20 *Journal of the American Medical Association*.

Reports from Baltimore and Charleston, S. C., confirmed the findings of a group of Johns Hopkins researchers who discovered that the heart could be revived by pressure applied externally to the heart area of the chest.

The technique consists of applying rhythmical pressure on the lower part of the victim's breastbone. One hand can exert enough pressure for a child, but both hands and greater pressure are needed for an adult.

Drs. Peter C. Gazes and John A. Boone, Medical College of South Carolina, reported that the method provided adequate circulation to sustain the heart and central nervous system in 20 patients. The duration of the massage ranged from less than a minute to an hour and five minutes, they said.

Drs. Peter Safar, Torrey C. Brown, Warren J. Holtey, and Robert J. Wilder, Baltimore City Hos-

(Continued on Page 54)

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For example, extensive studies are now being carried out in organic synthesis, vaccines, and radioactive isotopes. Some of these pharmaceuticals and biologicals are presently undergoing clinical trials in this country.

One research project nearing completion is a measles vaccine, now undergoing extensive U. S. clinical trial. Another preparation, soon to be available, is a progestational agent which gives promise of offering distinct advantages over those presently available. A true progestin, it will have wide application in female disturbances without androgenic, estrogenic, or corticosteroid side effects.

Philips Roxane has acquired affiliates throughout the United States, where research and development in human, animal and plant medicines are being greatly extended through their production facilities and sales organizations.

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P R O G R E S S I N R E S E A R C H F O R M E D I C I N E

Cancer in Rainbow Trout Linked to Fish Food

The occurrence of liver cancer in rainbow trout appears to be due to something in the food fed them in hatcheries, two pathologists said recently.

A high incidence of liver cancer has been discovered in rainbow trout in a number of fish hatcheries in the western United States in the past year. Drs. E. M. Wood and Charles P. Larson, Tacoma, Wash., wrote in the May *Archives of Pathology*, published by the American Medical Association.

At every hatchery where the disease has been observed, the authors said, the same pelleted diet has been fed for varying periods of time. In addition, they said, a direct correlation has been found between the severity of the disease and the length of time that the diet was fed.

The first dry feed, pelleted diets began to appear 10 years ago, they said. The majority of these contain vitamins, antioxidants, growth stimulants, and other additives designed to replace factors present in fresh meat.

The authors said they did not believe genetic predisposition, infections, or radiation caused the disease.

While nutritional deficiencies or imbalances cannot be ruled out as yet, they said, the rapid growth of affected fish does not indicate a nutritional factor as a primary cause.

This would leave a chemical or a cancer-causing hormone as the possible cause, they said; and the occurrence of this cancer in trout opens new avenues for investigation of the disease.

External Heart Massage Successful in 62 Cases

(Continued from Page 52)

pitals and Johns Hopkins School of Medicine, reported that their experience with 42 patients confirmed the efficacy of the technique in restoring the heart beat and blood circulation.

However, they said, the technique cannot be relied upon to ventilate the lungs even if the victim has an unobstructed airway.

Therefore, they said, external cardiac massage should be preceded and accompanied by artificial respiration because restoration of the heart beat without respiration is futile and many patients recover after artificial respiration alone.

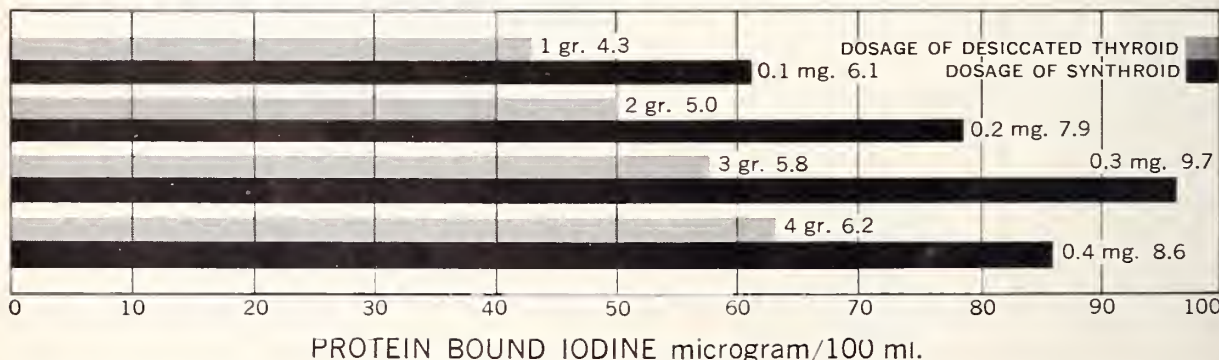
At the Baltimore City Hospitals, they said, the current technique of cardiac resuscitation consists of one operator inflating the lungs about once every five seconds and a second operator following each lung inflation with four chest compressions at one-second intervals.

The authors also said the external heart massage method "often led to fractures of the ribs" but this appeared not to interfere with the patient's survival.

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*Average pretreatment level, 2.38 mcg./100 ml. 195 determinations of serum P.B.I. level were made in these 28 patients. Four weeks were allowed for stabilization in a given dose.

†"Equivalent" dosage: 0.1 mg. of sodium l-thyroxine (SYNTHROID) is equivalent to 1 gr. desiccated thyroid. Reference: 1. Sturnick, M. I., and Lesses, M. F.: *New England J. Med.* 264:608 (Mar. 23) 1961.

Today's Health Scrutinizes
Chemical Suntan Lotions

Chemical tanning lotions appear to be harmless, but they are too new to be judged conclusively as to their safety, according to an article in the June *Today's Health* magazine.

While some dermatologists give the chemical tanners a clean bill of health, other researchers insist that more knowledge is needed before a final judgment can be made, the publication of the American Medical Association said.

The products considered in the article all contain a chemical called dihydroxyacetone (DHA). Unlike a suntan acquired from the sun, the artificial color produced by chemical tanners does not protect the skin against possible sunburn, the article pointed out.

There also are strong indications that DHA preparations are "far from being perfected," it said. A number of sources have reported that the products can result in streaking, uneven color and a blotchy or mottled effect.

"Because the chemical tanners are considered cosmetics, rather than drugs, federal law does not require that they be pre-tested for their possible allergy-causing propensity," the article said.

"While DHA itself appears to be nonallergenic, the commercially available preparations contain a

number of added ingredients among which one might find sensitizers," according to Joseph B. Jerome, Ph.D., secretary of the A.M.A. Committee on Cosmetics. "Individuals who have a predisposition to allergic reactions should exercise due care in the initial stages of using such preparations."

As a guide to consumers, Jerome made the following comments:

—Chemical tanning lotions made with DHA appear to be harmless, but these products are still too new to be judged conclusively as to safety. Nobody knows for certain what effects may come from the long-continued application of DHA. This must await either long-term use or extensive clinical trials.

—In the meantime, be dubious of advertisements which claim unqualifiedly that the color produced looks like a natural tan or that users can obtain the exact shade desired.

—Not all products are adequately labeled. Do not use a DHA product as a sunburn preventive unless the label clearly states that it contains a sunscreen agent.

—If DHA preparations prove completely harmless, they may be a solution to one problem involved in natural suntans—the hastening of the aging of the skin that is inevitable with continued exposure to the sun.

The article was written by William R. Vath, managing editor of the magazine.

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Sex Age (yrs.)	Thyroid Dose (gr.)	Years of Treat- ment	Cholesterol (mg. %)	P.B.I. (mcg. %)	Sodium I-Thyroxine Dose (mg.)	Weeks of Treat- ment	Cholesterol (mg. %)	P.B.I. (mcg. %)	Weight Loss (lbs.)
M 57	1½	4	400	1.7	0.15	8	290	4.4	29
F 71	2-3	8	260	0.7	0.2	10	200	7.0	11
F 65	2-4	8	552	2.3	0.2	8	299	4.5	9
M 67	1-3	5	360	2.4	0.2	6	230	6.0	12
F 70	3-4	9	600	1.7	0.2	4	340	6.6	4
F 62	1-3	10	299	1.6	0.1	8	164	3.9	3
F 59	4	8	420	2.0	0.2	3	215	7.0	5

Precautions: As with other thyroid preparations, overdose may cause diarrhea or cramps, nervousness, tremors, tachycardia, insomnia, and continued weight loss. Medication, in such cases, should be stopped for 2-6 days, then resumed at a lower level.

Contraindications: Thyrotoxicosis, acute myocardial infarction.

For Hypothyroidism, these results strongly indicate **SYNTHROID**[®]
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Reference: 2. Macgregor, A. G.: *Lancet* 1:329-332 (Feb. 11) 1961. *Brit. Pharmacopeia

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Hydrocortisone	—	—	10 mg.
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Report Way to Reduce Reactions To Measles Vaccine

Gamma globulin, a component of blood plasma, has been found to reduce unfavorable reactions to a live attenuated measles-virus vaccine, a group of medical researchers reported recently.

A "marked reduction" of reactions among a group of school children successfully immunized with a globulin-modified measles-virus vaccine was reported in the (June) *American Journal of Diseases of Children*, published by the American Medical Association.

The authors said this method of vaccination

would allow large-scale measles immunization programs.

The article was written by Fred R. McCrumb Jr., M.D.; Richard B. Hornick, M.D.; Sheldon Kress, M.D.; Ann E. Schluederberg, Sc.D.; Merrill J. Snyder, Ph.D., and Thomas Bigbee, B.S., Baltimore, and Samuel Musser, M.S., St. Joseph, Mo.

Earlier studies indicated that the measles vaccine was effective, but caused fever and rash in some vaccinees.

"Previous experience with attenuated measles-virus vaccines administered by various routes revealed a high incidence of reactions which, in our opinion, would preclude the use of these vaccines for mass immunization," the researchers said.

In their study, involving 158 susceptible school children in St. Joseph, Mo., each child was given an intramuscular injection of the measles vaccine and, three to five days later, an intramuscular injection of gamma globulin.

"Of this group, 143 children (91 per cent) were successfully immunized by this method without an appreciable number of clinically significant reactions," the authors reported.

"Only four per cent of the group had fever in excess of 103 F. and nine per cent had abnormal temperatures lasting for three or more days.

"Rash was observed in 4 per cent to 17 per cent of children who were immunized by the combined method.

"Constitutional symptoms and mild respiratory manifestations of measles vaccine infection were limited to the few children who experienced febrile reactions in excess of 103 F."

The group also reported that the vaccine modified by gamma globulin proved to be as potent an immunizer as the vaccine given by injection without globulin.

"The desirability of having a method of vaccination with low reactivity and high immunogenicity cannot be questioned," the researchers said. "Standardization of the procedure to assure a high degree of effectiveness should not be difficult."

They concluded:

"Although attenuated measles vaccines are highly immunogenic, it is our opinion that, in their present state of modification, these viruses are not suitable for community use.

"Until a less reactive vaccine is developed, the use of a combined immunization procedure employing gamma globulin, and attenuated vaccine appears to be the only practical method of large-scale immunization against measles presently available."

MALLORY WEISS SYNDROME—P. Glotzer and K. Elias, *New Eng. J. Med.*—Vol. 264:817 (April 20) 1961.

The Mallory Weiss syndrome consists of postemetic, linear, mucosal tears at the gastroesophageal junction, which may produce massive upper GI bleeding. A case is presented in which the diagnosis was made preoperatively and successful surgical treatment accomplished. The clues in diagnosis and the proper treatment are discussed.

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1200 CALORIES		1500 CALORIES		1800 CALORIES	
breakfast	1/2 cup grapefruit sections	50	250	1/2 cup grapefruit sections	50
	1/2 cup orange juice	50	250	1/2 cup orange juice	50
	Coffee or tea with 3 drops, skim milk	10	250	Coffee or tea with 3 drops, skim milk	10
	TOTAL	110	750	TOTAL	110
lunch	4 oz. tomato juice	75	325	4 oz. tomato juice	75
	2 oz. drained tuna fish, surrounded with raw vegetables with 1 tbsp. French dressing	75	400	2 oz. drained tuna fish, surrounded with raw vegetables with 1 tbsp. French dressing	75
	1 ryewater	50	450	1 ryewater	50
	Coffee or tea with 3 drops, skim milk	10	500	Coffee or tea with 3 drops, skim milk	10
snack	(May be had at mid-afternoon or evening)	0	500	(May be had at mid-afternoon or evening)	0
	2 oz. skim milk	50	550	2 oz. skim milk	50
	TOTAL	110	600	TOTAL	110
dinner	*1/2 portion Pickled Beef and Cucumber Salad	10	610	*1/2 portion Pickled Beef and Cucumber Salad	10
	*1/2 Baked Chicken Breast	215	825	*1/2 Baked Chicken Breast	215
	*Baked Asparagus	50	875	*Baked Asparagus	50
	1 canned peach half	40	915	1 canned peach half	40
snack	Coffee or tea with 3 drops, skim milk	10	925	Coffee or tea with 3 drops, skim milk	10
	TOTAL	110	1035	TOTAL	110
TOTAL CALORIES FOR DAY		1200	1500	TOTAL CALORIES FOR DAY	
Total fat calories 27% of total		324	405	Total fat calories 27% of total	
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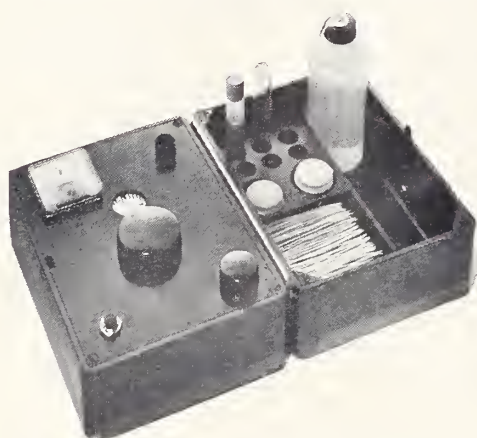
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Background Factors Cited In Emotional Disorders

Certain background occurrences are found more frequently among psychiatric patients than among comparable normal subjects, a study revealed.

The factors reported in a significantly greater number of patients were parental separation and divorce, severe personal physical illness, previous personal emotional disturbance, a family history of alcoholism or mental illness, and failure to complete education.

The study was made by Richard E. Gordon, M.D.; Marcia B. Singer, M.A., and Katherine K. Gordon, B.S., Mental Health Research Unit, Englewood Hospital, Englewood, N. J., and reported in the *May Archives of General Psychiatry*, published by the American Medical Association.

The study involved 310 non-hospitalized psychiatric adult patients and 114 non-hospitalized child patients as well as 557 normal adults and children.

While the findings do not justify many cause and effect conclusions, the authors said, it appears that preparation for one's life role and anxiety about performance are related to the occurrence of emotional disorders.

"Young married men seemed to be bothered by stresses associated with their bread-winning and marital role responsibilities," they said.

"Business, financial, and family physical and mental health difficulties concerned them more than they did single men. They, as other men, had more difficulties when they lacked a completed education and/or an American-born father in their childhood home to prepare and guide them. They were overloaded with quantitative stresses more than any other group. However, they usually were upwardly mobile socially, more rugged and competitive. They responded readily to therapy.

"Young married women reported stresses related to preparation for the feminine homemaking role. Disruption of their parents' home by divorce or mother's death and a previous marriage ending in divorce were more frequently reported in their social histories.

"Single young men had problems related to poor preparation for the competitive world of school and business affairs. Incomplete educations and personal illness were common features in these patients' social histories.

"Single young women, although almost all were working, were relatively less concerned with problems in this sphere of activity. They reported stresses related to their feminine and family problems. Romantic difficulties, family mental and physical illness, and parental separation were more important to them.

(Continued on Page 77)

Background Factors Cited In Emotional Disorders

(Continued from Page 70)

"Middle-aged and older men had problems with work, personal and family illness, and previous personal and family marital troubles.

"Middle-aged and older women were especially incapacitated by loss in any or all of their three main sources of security. With no husband, no work abilities, or no children it was difficult for a woman to gain a respected position in society and maintain self-confidence."

On the basis of their findings, the authors suggested ways to help inure the individual against the inevitable stresses of life.

"Children in our present materialistic society often have high expectations for pleasures and rewards and low tolerance to frustration, punishment, or stress," they commented.

"Just as we often immunize against many severe physical illnesses by repeated doses of antigens, we might recommend 'inurization' against emotional illness, gradual facing responsibility, toughening up in order to face a not so gentle, competitive world. As the child recognizes he must assert himself tactfully, face some hardship, strive, persevere, develop patience, consideration of others and self-control, he is better prepared to cope with life's stresses without developing emotional illness."

The study indicates that some age, sex, marital

groups are more susceptible to emotional difficulty than others, they continued.

"Probably the more susceptible have had less preparation for the rigors of modern life," they said. "Children need less protection and smothering 'love' and more toughening and preparation for life."

PULMONARY RESECTION IN INFANCY AND CHILDHOOD—J. H. Foster, J. K. Jacobs, and R. A. Daniel. *Ann. Surg.*—Vol. 153:658 (May) 1961.

A study is made of 55 children and infants upon whom 58 pulmonary resections were performed. The indication for operation included tuberculosis, bronchiectasis, lung abscess, and congenital anomalies. Postoperative complications (empyema, atelectasis, hemothorax, and cardiac arrest) occurred in six patients (10 per cent). One patient (1.7 per cent) died. The present status of 50 patients is known. The result is very good in 47, in that they are asymptomatic and exhibit no subjective or objective evidence of restriction in exercise tolerance.

* * *

EFFECT OF HIGH HUMIDITY ON BODY TEMPERATURE AND OXYGEN CONSUMPTION IN NEWBORN PREMATURE INFANTS—H. C. Miller, F. C. Behrle, E. L. Hagar, and T. R. Denison. *Pediatrics*—Vol. 27:740 (May) 1961.

Relative humidity between 80 and 90 per cent is capable of raising the body temperature of normal and sick premature infants from 1° to 3° F. (1° C.) above those seen in infants kept in low humidity during the first day or two after birth. The increase in body temperature associated with high humidity was not accompanied by increases in oxygen consumption among resting infants. All studies were carried out with infants maintained in ambient temperatures of 88° to 90° F. (31.1° to 32.2° C.).

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(Continued from Page 76)

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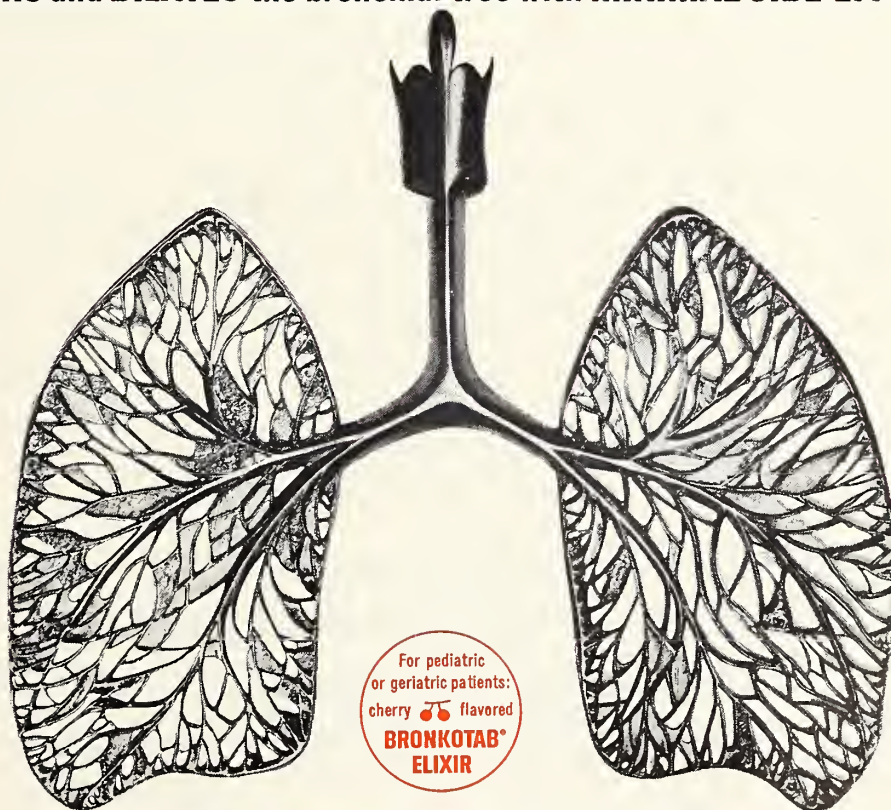
Each tablet contains; theophylline 100 mg.; ephedrine sulfate 24 mg.; phenobarbital 8 mg. (warning: may be habit forming); thenyldiamine HCl 10 mg.; and glyceryl guaiacolate 100 mg. Supplied: bottles of 100 white scored tablets. Usual precautions associated with sympathomimetic amines should be observed.

References: 1. Spielman, A. D.: Evaluation of a Combination Tablet of Theophylline, Ephedrine Sulphate, Phenobarbital, Thenyldiamine and Glyceryl Guaiacolate in the Treatment of Chronic Asthma, *Ann. Allergy* 18:281, 1960. 2. Waldbott, G.: Bronkotabs — a New Antiasthmatic Preparation (Preliminary Report), *Int. Arch. Allergy* 17:116, 1960.

For full information on Breon's five antiasthmatics, see pp. 538-539 of the 1961 PHYSICIANS' DESK REFERENCE plus the 2nd, 3rd, or 4th quarterly supplement.

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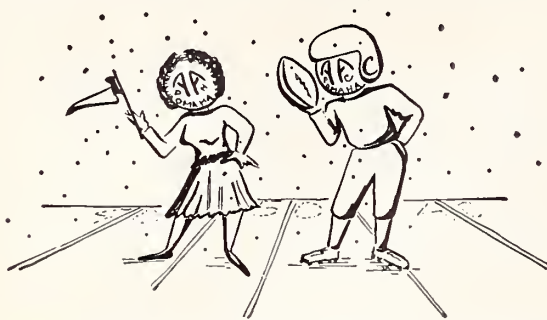
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Isolate Bacteria That Causes "Athlete's Foot"

Bacteria have been identified as a cause of erythrasma, a skin ailment commonly termed "athlete's foot" when it affects the toes, three physicians reported recently.

The disease, which causes cracking and scaling of the skin, previously has been classified among those caused by fungus.

Drs. Imrich Sarkany, M.R.C.P., David Taplin, and Harvey Blank, Miami, Fla., said they recently succeeded in isolating rod-shaped bacteria from the affected skin and have found that the disease responds to treatment with certain antibacterial antibiotics.

"Electron microscopic examinations confirm that the organisms regularly obtained in cultures are bacteria," they said.

Writing in the July 15 *Journal of the American Medical Association*, the authors said erythrasma is most commonly manifested in the toes.

An examination of 109 persons revealed that 23 per cent had erythrasma of the toe webs, they said.

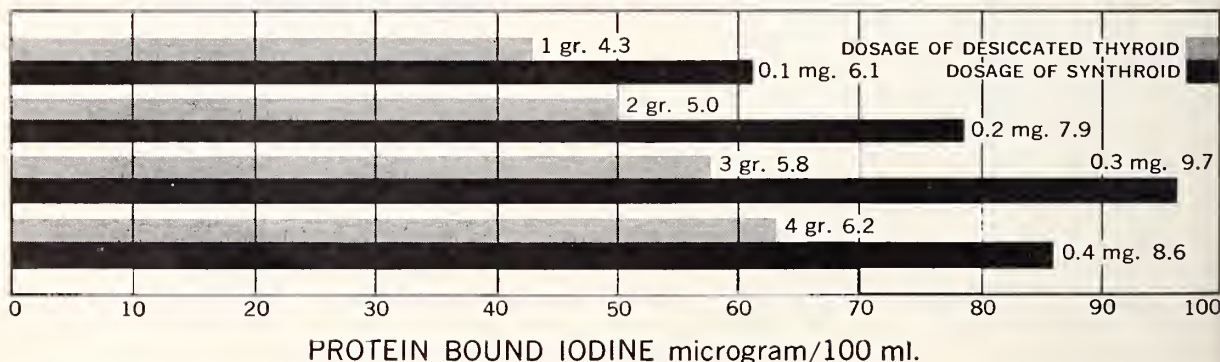
This finding should fill at least a part of the large gap which had previously existed in knowledge of the cause of those cases of "athlete's foot" for which no adequate explanation has existed in the past, an accompanying *Journal* editorial said.

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*Average pretreatment level, 2.38 mcg./100 ml. 195 determinations of serum P.B.I. level were made in these 28 patients. Four weeks were allowed for stabilization in a given dose.

†"Equivalent" dosage: 0.1 mg. of sodium l-thyroxine (SYNTHROID) is equivalent to 1 gr. desiccated thyroid. Reference: 1. Sturnick, M. I., and Lesses, M. F.: *New England J. Med.* 264:608 (Mar. 23) 1961.

ther evidence the disease is caused by bacteria, they said.

Erythrasma of the groin-thigh area "clears up completely" when erythromycin is administered by injected, they reported.

However, erythrasma of the toe webs is more resistant to treatment, they said. Erythromycin leads to symptomatic improvement but often fails to effect a complete cure, they said.

Cocktail Can Trigger Migraine in Some

A single cocktail can cause a migraine headache in some persons, according to a consultant for the *Journal of the American Medical Association*.

Dr. E. Charles Kunkle, writing in the July 29 *Journal* said:

"The ability of alcohol to trigger a migraine headache is noted by only a few patients. The response is most strikingly evident in persons with a common migraine variant, the 'cluster' headache. In these the vulnerability to alcohol is ordinarily evident only during the period when headaches are occurring in rapid succession (in a cluster) and may be brought out by even one cocktail."

Although the alcohol-triggered migraine has long been recognized, Dr. Kunkle said, it has not been studied in detail. It is distinct from the hangover headache, he said.

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M 57	1½	4	400	1.7	0.15	8	290	4.4	29
F 71	2-3	8	260	0.7	0.2	10	200	7.0	11
F 65	2-4	8	552	2.3	0.2	8	299	4.5	9
M 67	1-3	5	360	2.4	0.2	6	230	6.0	12
F 70	3-4	9	600	1.7	0.2	4	340	6.6	4
F 62	1-3	10	299	1.6	0.1	8	164	3.9	3
F 59	4	8	420	2.0	0.2	3	215	7.0	5

Precautions: As with other thyroid preparations, overdose may cause diarrhea or cramps, nervousness, tremors, tachycardia, insomnia, and continued weight loss. Medication, in such cases, should be stopped for 2-6 days, then resumed at a lower level.

Contraindications: Thyrotoxicosis, acute myocardial infarction.

For Hypothyroidism, these results strongly indicate SYNTHROID®
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Reference: 2. Macgregor, A. G.: Lancet 1:329-332 (Feb. 11) 1961. *Brit. Pharmacopeia

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New Licenses to Practice Medicine Increased Slightly in 1960

The estimated number of new licenses to practice medicine issued in the United States in 1960 showed a slight increase for the ninth consecutive year, the American Medical Association has reported.

There were approximately 16,211 physicians who were registered during the year, compared with 16,068 in 1959, according to an annual report of the A.M.A. Council on Medical Education and Hospitals.

Among these were 8,030 physicians who received their first licenses, a decline of 239 from the 8,269 issued in 1959, the report showed.

Since about 3,700 physicians died during 1960, there was a net gain of 4,330 in the physician population last year. This was a smaller net gain than the 4,769 physician increase in 1959.

New York issued the largest number of first licenses with 1,039 followed by California with 652 and Pennsylvania with 534.

The University of Michigan had the greatest number of graduates to be examined for licensure with 183.

The total number of licenses to practice medicine and surgery issued in 1960 was 16,102. The figure includes 7,571 licenses granted after a successful written examination and 8,531 granted by reciprocity.

(Continued on Page 65)

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OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

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Volume 95

SEPTEMBER 1961

Number 3

Headache

Pharmacological Approach to Treatment

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MORE DRUGS for the treatment of headache have become available to physicians in the past ten years than in all the previous history of American medicine. This flood of new drugs has resulted from progress in pharmacological research and from increased knowledge of the basic mechanisms of head pain. Yet from a critical review of the literature it appears that the number and the effectiveness are not closely related. On the contrary, the very fact that more than 400 drugs have been offered for the treatment of migraine seems more a measure of shortcomings than of successful therapy.

The purpose of this presentation is (1) to consider criteria and basic principles for clinical evaluation of drugs and (2) to evaluate some of the drugs recently introduced in the treatment of vascular and muscular contraction headaches, which constitute over 90 per cent of the headaches the physician will treat in his office.

Criteria and Basic Principles

In evaluating the treatment of headache by pharmacological methods, a number of factors are difficult to control. Headache as a symptom is a subjective response, evident only to the individual experiencing it. The appraisal of therapy depends

- The great majority of headaches a physician treats in office practice can be divided into two main categories, muscular contraction headache of tension type and vascular headaches of the migraine type.

The most satisfactory symptomatic therapy for tension headache is by the use of a nonnarcotic analgesic agent combined with a tranquilizer or sedative. On the other hand, symptomatic relief of migraine is best obtained by the use of a suppository of ergotamine tartrate and caffeine combined with an antiemetic or antispasmodic.

Interval treatment of patients with tension and migraine headache centers on helping the patient understand his emotional problems. Prophylactic drug therapy for patients with tension headache includes the limited use of tranquilizers and sedatives. Recently, striking benefits in some patients with migraine have been achieved by the prophylactic use of the antiserotonin drug methysergide (UML 491).

upon a cooperative statement made by the subject. Moreover, there are three areas in which effect of the drug must be considered: (1) The original pain sensation and its mechanism; (2) the anxiety associated with the pain, and (3) the secondary increase in dysfunction, including the additional pain sensation which accompanies the anxiety.

Response to any therapy will be affected by the patient-physician relationship. In my experience, the pharmacological effect of sedatives, tranquilizers and analgesics is decidedly influenced by the

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Guest Speaker's Address: Presented before the Third General Meeting at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

physician's ability to relieve the patient's anxiety. Response to a remedy also depends upon the psychological status of the patient, whose attitude may range from constructive to cynical. The physician's attitude toward the drug being administered influences the results: the therapeutic enthusiast always does better than the therapeutic nihilist. It also must be emphasized that the physician's understanding of the pharmacologic action of the drug being used, including such parameters of a drug as mode of administration, dosage, number of doses and frequency of administration have pronounced effect on the results of treatment.

Unfortunately the observations made by inducing headache for experimental purposes and then appraising the results of chemical agents on the symptoms, are not as reliable as observations of the treatment of spontaneous headache. Consequently, despite the difficulties, clinical use in the treatment of patients is the only way to make a valid test of the value of any drug in the treatment of headache.

Method of Drug Evaluation

Evaluation of both symptomatic and prophylactic therapeutic agents for headache requires a comparison of groups of patients taken at random. Essential parts of the investigation are double-blind techniques including a placebo and standard drug of reference for comparison; also standardization of order, correlated data, mathematical validation of difference, and appraisal of side effects. Studies of this type are difficult from two standpoints: patient material and the investigator's time.

It is my belief that new compounds must be more than simply helpful; to be considered of real value they must prove superior to other established drugs. However, other investigators believe that any drug capable of helping in any way is valuable—this on the grounds that in many instances it is not possible to evaluate drugs under the ideal criteria but it is possible that their usefulness may be established by giving them to many patients over a long period.

Placebo Effect

In the appraisal of drugs intended to alter subjective responses such as head pain, the placebo deserves especial attention. It is important to remember that placebo effects are not imaginary, and that virtually all organs are capable of responding to placebos. The placebo derives its power from the fact that the administration of it is meaningful for the patient. Objective laboratory tests have shown that placebos can stimulate the adrenal glands and mimic drug action.² This action is thus not necessarily only a psychological one. It also should be emphasized that response to a placebo in one situation may be quite different from the response in another. Individual attitudes and reactions to treat-

ment vary enormously from patient to patient and even with the same patient from time to time and cannot be precisely duplicated.

Clinical Use of Pharmacological Therapy

Headache is a symptom and not a disease. The goals in pharmacotherapy are to interrupt the mechanism that produces the pain, to raise the pain threshold and to reduce the emotional tension and anxiety responsible for or associated with the pain. Prevention of headache is difficult but control of the attack of pain is usually successful. The small minority of headaches secondary to a specific acute illness are treated through control of the primary pain and correction of the underlying disorder. The great majority of headaches are psychophysiological responses involving cranial arterial dilatation or muscular contraction without any structural changes. It is with this group that this communication deals. Management of the patient should be considered from two aspects, prophylactic and symptomatic.

Vascular Headache of the Migraine Type

Migraine is a symptom complex consisting of periodic, recurrent, commonly unilateral headache, often associated with anorexia, nausea and vomiting and having a variety of prodromal symptoms, including visual disturbances. Frequently a history of similar headache in the parents or other members of the family is noted. Although headache is the most prominent feature of migraine, the syndrome may manifest itself in widespread derangement of bodily function, including mood disturbances.⁸

The painful phase of migraine is associated with vasodilatation, during which the cranial vessels show altered sensitivity and increased amplitude of pulsation. Recent studies indicated that the sensitivity of the blood vessels is in part due to the accumulation of a substance of low molecular weight (neurokinin), which may be responsible for lowering the pain threshold.¹

For convenience of diagnosis and treatment, migraine headaches can be divided into the following categories:⁴

(a) Vascular headache in which prodromata—visual, sensory or motor—are sharply defined neurological phenomena ("classical migraine").

(b) Vascular headache in which pronounced cephalic autonomic phenomena occur with the head pain in a cluster pattern ("cluster migraine").

(c) Vascular headache without striking prodromata and less well defined variable features ("ordinary migraine").

(d) Vascular headache accompanied by major neurological phenomena which persist during and after the headache ("ophthalmoplegic migraine," "hemiplegic migraine").

Symptomatic Treatment of Migraine

The most effective drug in the treatment of an attack of vascular headache of the migraine type is ergotamine, which provides an excellent example of affording relief for head pain without any direct analgesic effect. The beneficial effect of ergotamine administration probably depends on its action on the smooth muscles of the blood vessels, causing a constriction of these vessels, as well as on its central action. Its effectiveness in migraine therapy has further been improved by combining it with caffeine to potentiate its action and with other compounds to reduce its side effects and to control other symptoms associated with the migraine attack. Many forms of ergotamine derivatives are now available in proprietary preparations incorporating antispasmodics, sedatives and antiemetics to suit the individual patient's need. The drug can be given by inhalation or by sublingual, oral, rectal or parenteral routes. In ordinary and classical migraine, rectal suppositories combining ergotamine with caffeine and an antispasmodic have proven most effective. In cluster headache, because of its transitory nature, the best results are usually obtained with ergotamine or dihydroergotamine used parenterally or by the aerosol inhalation of ergotamine. The use of antiemetics such as Compazine® (prochlorperazine) or Marezine® (cyclizine hydrochloride) is very helpful in the prevention of nausea caused by the drug and headache.

The importance of administering the medication early in the course of an attack, and giving it in adequate doses, cannot be overestimated. Many therapeutic failures are ascribable to too small a dosage given too late. Many errors in therapy are owing to lack of knowledge of how to use the drug—from undue fears of its danger on the one hand to recklessness in its administration on the other. However, the physiologic effects of ergot are exceedingly variable from person to person. Even in the same patient the way the body deals with the drug varies with certain physiologic states of the responding tissues. For example, the rate of disintegration of an ergotamine tablet—or even the rate at which the drug gains access to the circulation—is not necessarily compatible with the effectiveness of this chemical agent in the treatment of migraine. Although the site of action is both peripheral and central, little is known of the fate and excretion of ergot alkaloids. Furthermore, many of the side effects of ergotamine are probably referable to the central nervous system, and the route of administration would have little effect on them.

Because of its powerful vasoconstrictor action, ergotamine should not be used in patients who have or are suspected to have peripheral, cerebral or coronary vascular disease of venous or arterial ori-

TABLE 1.—Anti-Serotonin Activity in Vivo in Relation to Clinical Efficacy as Migraine Prophylaxis

Compound	Inhibition of Serotonin-induced Edema in the Rat's Paw		Relative Clinical Effect (Range, 0 to 4+)
	E. D. 50 mcg./kg.	Relative Value*	
1. Hydergine	833	7	+
2. BOL 148†	196	29	+
3. Cyproheptadine ..	26	150	++
4. UML-491 (methysergide) ..	13	440	++++

*LSD-25 = 100.
†D-2-Brom-lysergic acid diethylamide tartrate

gin. It is also contraindicated in patients with liver disease, renal damage, hypertension, pregnancy or septic states and in cachectic patients.

In the late stages of migraine attack, analgesic and sedatives are sometimes helpful if the headache has persisted long enough for the vessels to become firm and tortuous. In an occasional patient, relief is secured from an acute attack by inhalation of 100 per cent oxygen, by the administration of injectable Dramamine® (dimenhydrinate) or even by local infiltration of the affected artery by procaine. Efforts to abort "classical" migraine at the onset of aura by the use of nitroglycerin, carbon dioxide, nicotinic acid or other vasodilating agents have not been successful.

Prophylactic Treatment of Migraine

In appraisal of a prophylactic chemical agent in the treatment of migraine, it is well to note that we can be misled by the natural history of the disorder, particularly by the unpredictable remissions which can last for months or even years. Attempts to lessen the frequency of attacks of migraine in over 1600 patients by pharmacotherapy were made in previous studies.⁹ The frequency and/or severity of the attacks was decreased significantly in over 50 per cent of the patients, with all categories of chemical agents used. These included sympatholytics, antispasmodics, sedatives, histamine, vasoconstrictors, vitamins and central nervous system stimulants, used alone or in combination. The results obtained with these drugs were not appreciably different from the results with placebos, which brought about a 45 per cent improvement.

Migraine patients may profit to a limited extent from the prophylactic use of tranquilizing drugs and in some instances may be especially helped by drugs such as methaminodiazepoxide (Librium®) and certain monoamine oxidase inhibitors that elevate the patient's mood.

Recently we at the Montefiore Hospital Headache Unit have been encouraged by our experience with 1-methyl-D-lysergic acid butanolamide (methysergide) (UML-491).^{5,7} This substance is a serotonin antagonist, the basic actions of which are still to be

TABLE 2.—Responses of Two Groups of Migraine Patients to Alternative Treatments

	UML-491	Placebo	Totals
Excellent or good.....	97	8	105
Fair	30	7	37
Poor	23	12	35
Unreported	26	3	29
Totals	176	30	206

determined. Our experience indicates that the effectiveness of a drug in the treatment of migraine may be related to its ability to inhibit serotonin (Table 1). Recent evidence indicates that UML-491, in addition to its central and anti-inflammatory properties of a nonspecific nature, may secondarily induce peripheral vasoconstriction. It has been suggested that the vasoconstrictor effect is dependent upon the capacity of UML-491 to increase the sensitivity of the individual to his own vasoconstrictor substance. Such vasoconstriction, indirectly induced, is presumed to be the basis of therapeutic action which this agent possesses in the prevention of vascular headaches.³ However, it should be noted that methylation of lysergic acid derivatives in position I not only increases serotonin antagonism but decreases all the other generally known pharmacodynamic properties of these compounds, including vasoconstriction. Whatever its specific action, in 16 months of use it has reduced the frequency and severity of headaches in 65 per cent of a group of 176 patients, which is significantly different from placebo response (Table 2). The average dose for patients with migraine in this series was 6 mg. daily, administered in 2 mg. doses spread out over the day.

Muscular Contraction Headache of Tension Type

Tension headaches occur in connection with constant or periodic emotional conflict, of which the patient is partially aware. They have no prodromata and are usually bilateral, commonly suboccipital but sometimes frontal or around the entire head as a band. There is a gradual onset of the head discomfort, which is frequently described as aching, pressing or tightness but may simulate organic pain of any type. Frequency, duration and severity are variable, but once a headache begins it usually persists for hours or even several days.¹⁰

Excessive muscle contraction and tender spots in the neck and scalp are physical features, and there also may be limited movement of the neck. Tension headache is not accompanied by neurological signs.

As can be demonstrated by action potentials electromyographically recorded from the muscles of the head and neck, sustained contraction of these muscles is associated with the pain.¹¹ However, pain of any etiologic background can cause muscle contraction, so that observing the presence of a muscle

TABLE 3.—Muscle Tension Headache—Symptomatic Treatment

Medication	Action	Per Cent Improved	No. of Patients
Dextropropoxyphene hydrochloride (Darvon) ..	Analgesic	58	120
Acetylsalicylic acid (aspirin)	Analgesic	55	120
Placebo		45	100

TABLE 4.—Results with Various Agents in Treatment of Muscle Tension Headache

Medication	Action	Per Cent Improved	No. of Patients
Aspirin	Analgesic	74	400
Phenacetin	Analgesic		
Caffeine	Stimulant		
Sandoptal (Fiorinal)	Sedative	69	262
Dextropropoxyphene hydrochloride	Analgesic		
Aspirin	Analgesic		
Phenaglycodol (Darvon compound)	Tranquilizer		
Placebo		45	100

spasm or recording it by electromyography does not prove a causal relationship. It has been assumed that ischemia which develops in the area of the contracted muscles may play a role in maintaining the pain. However, our measurements with radioactive sodium have indicated that the blood flow in the involved muscles may be actually increased. Further work is being done to prove or disprove this preliminary finding. Another factor may be a central spread of the excitatory effect of noxious stimulation of soft tissues of the neck. Whether one or more of these factors is responsible for the pain in muscle spasm is still to be determined.

Symptomatic Treatment of Tension Headache

As ordinarily used, the nonaddicting analgesics alone are seldom efficient in relieving an acute attack of tension headache. Likewise, tranquilizers and sedatives rarely control the discomfort. But when the analgesic is combined with a tranquilizer or sedative it is extremely effective, for in combination these drugs affect not only the pain threshold but also the reaction to pain (Tables 3 and 4). An analgesic combined with a sedative or a tranquilizer or both gives effective relief in over 70 per cent of treated cases, whereas nonnarcotic analgesics or sedatives, when used alone, are less effective (55 per cent).⁶ It should be noted that placebos are effective in approximately 45 per cent of these patients.

The ideal analgesic for the treatment of tension headache should be effective at levels not impairing sensorium or vital functions, and it should be free of addicting properties, have negligible side effects or toxicity and be simple to administer.

Prophylactic Treatment of Tension Headache

Preventive treatment of tension headaches by chemical agents has undergone a change in recent years because of the introduction of tranquilizers, central muscle relaxants and related compounds. However, since tension headaches are frequently the result of psychological factors, therapy should not neglect this important area. Drugs cannot replace insight and help to the patient in understanding his emotional problems, but they are of value in reducing emotional tension and allowing the patient to handle stressful situations more effectively.

For purposes of evaluating their effectiveness, tranquilizers may be classified by their chemical structure into the following groups: the phenothiazines, the derivatives of rauwolfia, the diphenylmethanes, substituted propanediols, and methaminodiazepoxide.

All members of each chemical group share pharmacological properties and may differ from each other only by dosage requirements. The substances closely related in chemical structure are also likely to produce comparable clinical and toxic effects. Table 5 summarizes some of our experience with the use of tranquilizers in prophylactic treatment of tension headache.

A compound of another type that we have considered in the interval treatment of muscle tension headache is aminophenylpyridone (amphenidone) which has both tranquilizing and analgesic action. Appraisal of this drug in a recent study indicated it was an effective agent in 66 per cent of the patients.

Future Pathways

The necessity for developing new and more critical methods for assessing the effects and efficacy of new pharmacologic agents in the treatment of headache has been stressed by many investigators. It is the author's opinion that the future approach to the evaluation of such drugs must include chemical and pharmacological methods which will enable us to diagnose and classify headache by more objective means. Through these techniques, including the determination of blood levels of drugs, bioassays and the use of radioactive tracers and electronic methods, the subjective responses of patients can be evaluated by objective parameters. With these approaches in mind, the gulf between what the clinician observes and what the neurochemist and

TABLE 5.—Results of Prophylactic Treatment of Muscular Tension Headache with Various Tranquilizer Agents

	No. of Patients	Per Cent Improved
Methaminodiazepoxide (Librium®)	160	72
Meprobamate (Miltown®)	527	62
Phenaglycodol (Ultran®)	514	61
Hydroxyphenamate (Listica®)	66	60
Reserpine (Serpasil®)	641	55
Chlorpromazine HCl (Thorazine®)	114	54
Placebo	100	45

pharmacologist demonstrate should be more easily bridged.

We have progressed a long way from Galen in our approach to pharmacological treatment of headache. It was Galen who said, "All who drink of this remedy recover in a short time, except those whom it does not help, who all die. Therefore, it is obvious that it fails only in incurable cases."

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Refractory Hypotension

Diagnosis and Management in Surgical Patients

LOUIS L. SMITH, M.D., and BRUCE W. BRANSON, M.D., Los Angeles

TWO KINDS of circulatory collapse are seen most frequently in acutely ill surgical patients. One is due to acute reduction of blood volume following loss of blood, plasma or extracellular fluid. This situation is obvious and specific replacement is required. Response is prompt and recovery is the rule providing the cause of the circulatory collapse can be corrected. Circulatory failure of this kind can be called "responsive hypotension."

The other kind of circulatory collapse occurs in surgical patients who, although they seem to have a normal blood or plasma volume, do not have adequate circulation. Frequently such persons because of the obscure nature of the vascular collapse, are given intravenous vasopressor agents. Their response to resuscitative efforts is sluggish, and the mortality rate is high. "Refractory hypotension" is an apt term for circulatory failure of this type.

In the present discussion of the possible causes and treatment of refractory hypotension, we have avoided the term "shock" because of confusion regarding its definition and because it is frequently used in the experimental laboratory to describe a circulatory collapse in which death is considered to be inevitable. Hypotension, for the purpose of this discussion, will refer to those clinical conditions in which the pulse rate is accelerated, the blood pressure low and there is evidence of impaired perfusion of vital organs.

ETIOLOGY

The following case illustrates the problem of refractory hypotension in a postoperative patient.

A 53-year-old Caucasian housewife entered the hospital for elective operation on the biliary tract because of pain in the right upper quadrant of the abdomen. She had had jaundice, which had subsided without medical treatment. A cholecystogram was reported as showing a nonfunctioning gallblad-

• Refractory hypotension is circulatory collapse of obscure cause which occurs in surgical patients who are thought to have a normal blood volume but in whom adequate circulation cannot be maintained. Such patients are usually treated empirically by the administration of intravenous vasopressor agents, and the mortality rate is relatively high.

A specific diagnosis of the underlying cause for the refractory hypotension can be made by thorough clinical evaluation. Specific treatment aimed at correcting the underlying cause of the vascular collapse will lower the mortality rate in this serious type of circulatory failure.

der. At operation the gallbladder was observed to contain many stones and there was a solitary gallstone in the common duct, which was dilated. The ampulla of Vater would not admit a No. 3 Bakes dilator and there was a cholecystoduodenal fistula.

The operative procedure consisted of cholecystectomy, choledocholithotomy, closure of the cholecystoduodenal fistula and transduodenal sphincteroplasty. On the first postoperative day the patient had a temperature of 102.2° F. The pulse rate was 88 and the blood pressure 120/83 mm. of mercury. The hematocrit was 44 mm. (before operation it was 38 mm.).

On the afternoon of the first postoperative day, the patient attempted to go to the bathroom but collapsed on the floor in her room. Soon afterward the blood pressure was unobtainable and no radial pulse could be felt. Abdominal palpation revealed no tenderness. The hematocrit was reported as 49 mm. Intravenous Aramine® (metaraminol) drip administration was begun and the blood pressure rose to 65/50 mm. Intravenous corticosteroid administration (Solu-Cortef® 300 mg.) did not elevate the low blood pressure further. On the morning of the second postoperative day the temperature rose to 103.8° F., the blood pressure and the pulse became unobtainable. The patient was digitalized with Ceditanid,® intravenous administration of tetracycline hydrochloride (Achromycin®) was begun and the concentration of Aramine increased in order to restore the blood pressure. As the response was poor, drip administration of norepinephrine was begun. The hematocrit at this time was 55 mm. The pa-

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Presented as part of a Seminar on Recent Advances in the Management of Hypovolemic Shock before the Section on General Surgery at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

This study was supported in part by U. S. Public Health Service grant No. H-4639.

tient's condition deteriorated rapidly and she died on the morning of the second postoperative day.

At autopsy, acute pancreatitis with extensive retroperitoneal edema and fat necrosis was noted. There was a focal area of hemorrhage within the head of the pancreas.

In this case, the cause of vascular collapse was not recognized during life and plasma volume replacement was not carried out.

The causes for hypotension in surgical care are few. Common conditions which can produce vascular collapse are: Concealed hemorrhage, cardiovascular catastrophe, pulmonary catastrophe, invasive sepsis, electrolyte disorder, postoperative pancreatitis, vascular impairment of bowel, acute adrenal insufficiency.

Concealed Hemorrhage: One of the commonest causes for unexplained circulatory failure following operation is concealed hemorrhage. This diagnosis is frequently obscure in the early stages before the development of abdominal distention and flank dullness. Continued tachycardia or hypotension responsive to transfusion, a falling hematocrit or bleeding from drain tubes should make one suspicious of this complication.

Cardiovascular Catastrophe: The cardiovascular causes for circulatory failure are well known. Pulmonary embolism, coronary occlusion, or acute cardiac arrhythmias may be responsible for refractory hypotension. In all of these disorders the blood volume is normal and hypotension is the result of "pump failure."

Pulmonary Catastrophe: Disturbances in pulmonary ventilation must be considered as possible etiological factors in the production of refractory hypotension. Undiagnosed pneumothorax or airway obstruction produce vascular collapse by asphyxia. Spreading pneumonia not only impairs pulmonary ventilation but poses the threat of blood stream invasion by the infectious agent.

Sepsis with Blood Stream Invasion: Refractory hypotension may also be brought about by spreading infection with bacteremia or septicemia. Whether the septic process be peritonitis, enterocolitis or pneumonia makes little difference. The acute inflammatory process is associated with the development of inflammatory edema and subsequent reduction of the plasma volume. Additional whole blood volume may be sequestered in congested vessels within the area of acute inflammation. As a result of this inflammatory process there is a reduction of the plasma volume or effective whole blood volume.

Electrolyte Disorders With or Without Acid-Base Changes: Acute surgical illness is frequently associated with significant losses of electrolyte-rich body

fluids through depletion of extracellular plasma volume. When these losses reach a critical point, compensatory mechanisms fail and circulatory collapse ensues. Knowledge of the pressor effect of the sodium ion is important in understanding the pathologic biochemical features of hypotension. This pressor effect is evidently lost by either hyponatremia or sodium deficit even though the two may not occur together. An electrolyte disorder should be considered in any patient with hypotension who also has altered cerebration or neuromuscular irritability or muscular weakness.

Acute electrolyte disorders are frequently associated with acid-base shifts which in themselves may be responsible for altered cardiovascular function. Abnormal breathing or a change in respiratory rate is indicative of acid-base disorders. The usual acid-base change in patients with refractory hypotension is a metabolic acidosis, frequently combined with respiratory acidosis.^{8,9} The metabolic acidosis develops from the accumulation of acid metabolites during a period of low perfusion of tissues and obligatory anaerobic glycolysis. Clinical and experimental observations indicate that there is a diminished response to intravenous sympathicomimetic agents in patients or experimental animals with acidosis.^{5,10,11} This diminished response is most noticeable with respect to myocardial function.

Respiratory acidosis frequently occurs with the induction of anesthesia and in prolonged operations, particularly within the chest.² This acid-base defect can be associated with disturbances in cardiovascular function such as acute cardiac arrhythmia.⁶ Maier and coworkers observed a high incidence of postoperative hypotension in patients with severe respiratory acidosis (blood pH less than 7.1).⁶ Cardiac arrhythmia is most likely to occur on the sudden return to breathing of room air following a period when the patient has been subjected to high concentrations of carbon dioxide with its associated respiratory acidosis.^{3,7}

Acute Pancreatitis: The great masquerader of the upper abdomen is acute pancreatitis. The sudden onset of circulatory collapse may be the first evidence that this disease is present. Several mechanisms predispose to circulatory failure in this condition. One is the extensive loss of plasma in the retroperitoneal tissues due to the acute inflammatory process. A second is the sequestration of whole blood in acutely congested blood vessels in the area of acute inflammation. Still another is the loss of protein-rich fluid into the peritoneal cavity as a result of the acute peritonitis. The net result of these factors is a reduction in the plasma volume and a decrease in the effective circulating whole blood volume. This disease should always be suspected

when unexplained circulatory failure follows any operation, but particularly following biliary or gastric operation.

Vascular Impairment of the Bowel: One of the most insidious causes of refractory hypotension is intestinal obstruction due to mesenteric vascular occlusion. There may be vague abdominal symptoms early in the illness and the radiologic observations may be equivocal. The first sign that bowel infarction exists is the onset of vascular collapse. Prompt diagnosis and definitive operation are essential for survival.

Acute Adrenal Insufficiency: Refractory hypotension in a patient with a history of tuberculosis or the presence of advanced malignant disease raises the possibility of acute adrenal insufficiency due to the destruction of the gland or replacement by tumor tissue. The widespread use of corticosteroid drugs in the management of a variety of chronic medical diseases poses an additional problem of recognizing relative adrenal insufficiency. A history of recent steroid therapy should alert the examining physician to the possibility of vascular collapse due to this cause.

DIAGNOSIS

In dealing with refractory hypotension, critical evaluation is needed to establish an accurate diagnosis and to institute specific therapy. Often a detailed history and physical examination will elicit additional information that may explain the circulatory failure. Table 1 outlines laboratory studies that are helpful in determining the cause of unexplained hypotension. Several points should be emphasized in regard to the use of these studies.

Blood: Serial hematocrit or hemoglobin determinations frequently demonstrate evidence of loss of plasma or extracellular fluid. A rising hematocrit or hemoglobin value indicates plasma loss, the cause of which must be determined by further clinical evaluation. Acute hemorrhage is not associated with an immediate drop in the hematocrit or hemoglobin value, since transcapillary refilling of the plasma volume must take place before the reduced red cell mass can be diluted. Serial determinations of hemoglobin and cell volume are essential if this change is to be demonstrated.

Plasma electrolyte determinations should be obtained if change in cerebation, evidence of neuromuscular irritability or unexplained hypotension develops. In prolonged surgical illnesses in which oral intake of fluids or food has been impossible or there has been excessive loss of fluids and electrolytes through nasogastric or fistula drainage, it is well to make determinations frequently to insure the adequacy of replacement therapy.

TABLE 1.—Suggested Diagnostic Studies in Unexplained Hypotension

A. BLOOD:	
	Serial hematocrit or hemoglobin determinations
	Plasma electrolyte content
	Carbon dioxide content
	Amylase content
	Cultures
B. X-RAY OBSERVATIONS:	
	Postero-anterior film of chest
	Plain film of abdomen
	Lateral decubitus film of abdomen
C. ELECTROCARDIOGRAM	
D. ADRENAL CORTICAL EVALUATION:	
	Eosinophil count
	Plasma corticosteroid concentration
	"Corticosteroid infusion test"

In clinical situations in which the initial carbon dioxide combining power is abnormally high or low or the patient has acute and unexplained respiratory changes, determination of the pH and the total carbon dioxide content of the arterial blood is most helpful in establishing an accurate diagnosis of the acid-base disorder which may be present. A pH determination is necessary to indicate whether a low carbon dioxide combining power is due to metabolic acidosis or respiratory alkalosis.

Serum amylase determination is another helpful diagnostic test in unexplained hypotension. A rising hematocrit or hemoglobin value following operation on the biliary tract or the stomach is an indication for the measurement of amylase activity, particularly if there is evidence of circulatory failure.

The onset of temperature elevation followed by vascular collapse is evidence of bloodstream infection and is indication for obtaining multiple blood cultures. The more cultures drawn, the more likely is identification of the organism. Then sensitivity studies can make antibiotic treatment more effective.

X-ray Observations: X-ray examination of the chest and abdomen is frequently helpful in establishing the cause of unexplained hypotension. Unsuspected pneumothorax, pneumonia or bowel obstruction may be demonstrated. Occasionally it is possible to see free intraperitoneal air or fluid levels on the lateral decubitus view of the abdomen.

Electrocardiogram: It is advisable to obtain an electrocardiographic tracing on all patients with unexplained vascular collapse and to interpret it with care. S-T segment changes and nonspecific T wave changes can occur as a result of myocardial ischemia following the onset of a hypotensive incident.

Adrenal Cortical Evaluation: Acute adrenal cortical insufficiency can be diagnosed by actual measurement of the plasma corticosteroid levels* or by an eosinophil count. The presence of a normal num-

*The term corticosteroid is used herein to mean 17-OH corticosteroid.

ber of circulating eosinophils in a patient with circulatory stress is evidence of adrenal insufficiency. If serious question exists that adrenal failure may be the cause of the vascular collapse, the administration of intravenous hydrocortisone as an "infusion test" should promptly solve the problem. This test will be discussed later in this paper.

MANAGEMENT

The aim of treatment in refractory hypotension is the restoration of adequate perfusion to vital organs at the earliest possible time. Blood pressure alone does not always reflect the status of organ perfusion or capillary circulation. One must consider the mental status of the patient, vital organ function (such as urinary output) and the general clinical appearance. The following treatment routine has been found helpful in restoring circulatory homeostasis in problem cases.

Correction of Electrolyte Disorders: Any demonstrable electrolyte disorder should be corrected, particularly any evident deficit of the sodium ion. Acute losses of sodium are frequently associated with extracellular fluid volume reduction in surgical patients. One must be careful to distinguish acute sodium deficit from a low plasma sodium concentration of dilutional origin produced by over-administration of electrolyte-free solution during the post-traumatic period of antidiuresis.

We have observed beneficial results by the administration of concentrated sodium solutions to patients with refractory hypotension who had low plasma sodium concentrations.⁹ The use of hypertonic saline solutions (3 per cent or 5 per cent sodium chloride) allows the correction of acute sodium deficiency without the administration of excess water. The coexistence of hyponatremia and metabolic acidosis makes sodium bicarbonate or lactate the ideal repair solution. One cannot postulate that all patients in shock will benefit by the use of concentrated sodium salts. The sodium therapy must be matched to the particular deficit observed in each instance.

Correction of Acid-Base Disorders: As previously mentioned, the two commonest disorders of acid-base balance in patients with refractory hypotension are metabolic acidosis and respiratory acidosis.^{8,9} Sodium bicarbonate or lactate is useful in correcting any existing metabolic acidosis. It should be borne in mind, however, that the administration of base cannot be expected to restore a normal hemodynamic state in the presence of an uncorrected deficit in blood volume. Following adequate blood volume restoration, the correction of

an associated metabolic acidosis in a patient with refractory hypotension might be expected to improve cardiovascular function.

The most important aspect of dealing with respiratory acidosis is preventing it. Adequate ventilation during long and extensive operations, encouraging coughing and deep breathing in the postoperative period, and endotracheal suctioning, particularly in thoracic operations, will help to minimize the threat of respiratory acidosis. Respiratory acidosis is usually difficult to treat once it develops, for there is usually some underlying acute or chronic pulmonary disease process such as pneumonia or emphysema. The judicious use of tracheostomy where indicated, and of positive pressure assisted respiration, offer the best chance of improvement.

Control of Sepsis: In the case of vascular collapse as a concomitant of severe sepsis, vigorous and prompt control of the infection by a combination of well-established surgical principles and intensive antibiotic therapy offer the best chance for survival. Broad spectrum antibiotics should be administered in high concentration by the intravenous route since intramuscular antibiotics may not be absorbed during the period of acute vascular collapse. Administration of whole blood or plasma until the venous pressure [monitoring of central venous pressure is discussed later in this presentation] begins to show an elevation has been helpful in restoring circulatory homeostasis in some of these patients. A critically ill patient with severe sepsis and vascular collapse may show a favorable response to overtransfusion.⁴

Blood Volume Restoration: Whole blood and plasma are the most important therapeutic agents in the treatment of refractory hypotension. Although one must be concerned about overtransfusion and congestive heart failure, elderly patients in vascular collapse are as vulnerable to prolonged under-replacement of blood as they are to sudden overtransfusion. Colloid replacement must be accurately tailored to the apparent volume requirements of the patient. The object of this therapy should be to restore not only the blood pressure but the flow of blood to vital organs.

Corticosteroid Administration: The diagnostic tests for establishing adrenal cortical insufficiency have been outlined. In clinical situations in which urgency demands that it must be determined quickly that adrenal insufficiency is not the cause of vascular collapse, the "corticosteroid infusion test" can be used. Solu-Cortef in a dosage of 100 to 300 mg. can be administered intravenously in 500 cc. of normal saline solution. Signs of circulatory improvement should promptly become evident if adrenal insufficiency is the cause.

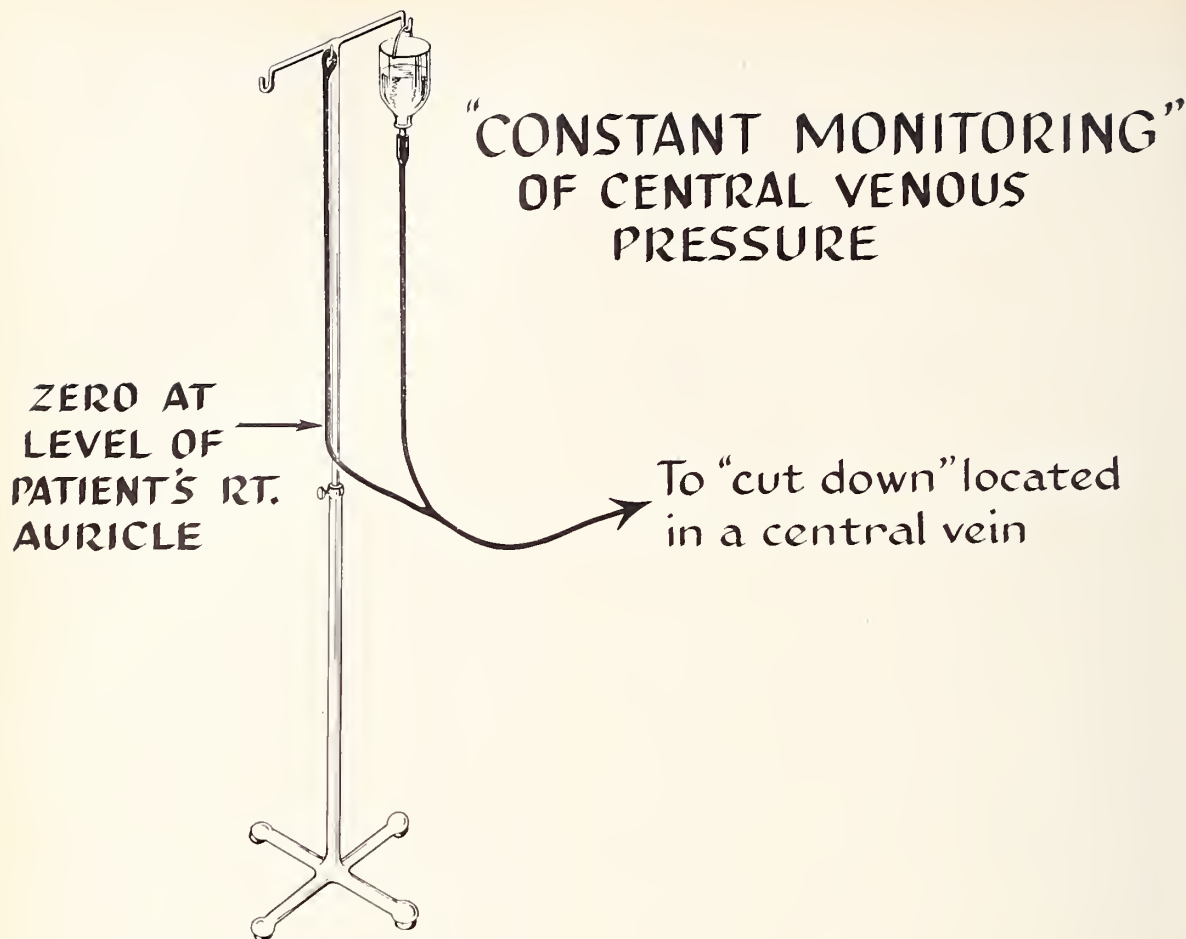


Figure 1.—Diagram of a simple disposable venous pressure set.* One vertical limb of the plastic Y is taped to the intravenous standard on which is placed an adhesive tape scale with zero at the estimated level of the right auricle of the heart. The second vertical limb of the plastic Y is connected to a bottle of normal saline solution and serves as a reservoir for filling the "manometer" limb of the apparatus. Following filling the "manometer" with saline solution, the reservoir side is clamped and the column of saline solution is allowed to seek the level of the patient's venous pressure. Such measurements can be made as often as desired and serve as a constant monitor of myocardial function relative to blood volume replacement.

Clinical studies by Anderson and coworkers¹ indicated that in certain situations, particularly bloodstream infection, the administration of pharmacological doses of hydrocortisone may attenuate the cardiovascular effect of the septic process. The dose in this case would approach a gram per day and would be continued for a short time only, then gradually tapered until discontinued. Such intensive therapy awaits further clinical and experimental evaluation. The use of this potent drug is not without serious complications and should be resorted to only when conventional therapy has failed to restore adequate circulation.

Vasopressor Therapy: The use of the potent vasopressor drugs in the management of circulatory collapse has been the source of considerable contro-

versy. In elderly patients we have found these drugs useful to maintain blood pressure until specific therapeutic measures have restored adequate circulation. Patients under general or regional anesthesia with diffuse circulatory paralysis likewise respond well to the temporary use of vasopressor drugs.

The apparent improvement in blood pressure following the use of these potent drugs should not lull the surgeon into complacency. The underlying cause for the circulatory collapse must be determined. Every effort should be made to institute specific therapy and to discontinue the administration of vasoconstrictor agents at the earliest possible moment.

Care should be taken not to produce an acute dilutional hyponatremia by the over-administration of 5 per cent dextrose in water relative to the concentration of vasoconstrictor being used. The fluid

* Made by the Fenwal Laboratories, Framingham, Mass.

volume administered should be closely observed and the concentration of vasoconstrictor drug increased when fluid intake exceeds actual body requirements.

GUIDES IN TREATMENT

The objective of the therapeutic program to be used in patients with circulatory collapse is the maintenance of adequate perfusion to vital centers and the restoration of circulatory homeostasis at the earliest possible time. Several indices are helpful in the management of these patients. These include observation of the state of consciousness, vital signs and hourly urinary output, monitoring the central venous pressure and the serial determination of the hematocrit or hemoglobin. An alert patient with adequate urinary output is not in serious danger even though the blood pressure may have fallen. By contrast an elderly hypertensive patient who is stuporous and oliguric is in immediate danger even though the blood pressure may still be within a normotensive range.

In acute circulatory disturbances the production of urine usually reflects the status of the blood volume. If there is a blood volume deficit, oliguria ensues. Hence the value of the hourly urinary output in determining whole blood or plasma volume deficits in refractory hypotension. A rising hourly urine output concomitant with colloid administration indicates favorable progress in restoring the blood volume. The urine output should range between 30 and 60 cc. per hour.

Central venous pressure is another helpful guide in determining the adequacy of colloid administration in patients with refractory hypotension. A polyethylene catheter (the size of a 14 gauge needle) is placed in a large arm vein and inserted to the axillary or subclavian level. The venous pressure is then measured at frequent intervals by observing the height of a column of saline solution in the vertical limb of a disposable venous pressure set. Zero is at the estimated level of the right auricle. Figure 1 shows such a venous pressure set.* Colloid administration can be safely continued as long as the venous pressure remains stable. A rising venous pressure indicates overexpansion of blood volume relative to myocardial function. In such a situation, the rate of transfusion must be curtailed and the patient digitalized; or, if the patient's condition has become stabilized, consideration should be given to venesection. In our experience, the serial observation of the central venous pressure has been more helpful in determining the colloid requirement of patients with refractory hypotension than has actual measurement of the blood volume, which all too fre-

quently shows the volume to be normal or increased, yet the patient remains in circulatory collapse.

DISCUSSION

There is a growing tendency to consider circulatory collapse or shock as a primary diagnosis rather than to recognize it for what it is—a sign of a serious underlying complication. Too frequently a patient with refractory hypotension is considered to be in “irreversible shock.” It should be pointed out that no clinical test or criteria are available to determine when a patient has become refractory to all therapy, and “irreversible” therefore has no place in clinical service except possibly in viewing such a problem case in retrospect.

Circulatory collapse as we see it on the clinical service is different from that produced in the laboratory. This condition frequently occurs in elderly arteriosclerotic patients with degenerative diseases involving multiple organs. This is in contrast to the healthy laboratory animal with no degenerative or significant arteriosclerotic changes. The presence of diffuse arteriosclerosis makes specific treatment imperative and requires greater vigilance during therapy if the patient is to survive.

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*Available from the Fenwal Laboratories, Framingham, Massachusetts.

Evaluation of Colon Dysfunction

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RECTAL BLEEDING, passage of mucus, excessive intestinal gas, bloating, abdominal discomfort, rectal tenesmus, feeling of incomplete evacuation, change in character of stools, diarrhea, and constipation are complaints that prompt many patients to consult a physician.

How do we determine which patient has an irritable bowel, which has diverticulitis, or an ulcerative process, or polypoid disease? Certainly proper diagnosis cannot be arrived at simply by relying upon barium enema and other x-ray studies to distinguish organic from functional disease. Barium enema studies, while extremely helpful, are only about 85 per cent accurate in ruling out a carcinoma of the colon, are of little help in demonstrating a rectal carcinoma, and about 50 per cent accurate in differentiating between diverticulitis and carcinoma. The guaiac or benzidine stool examination for occult blood is worthless in evaluating a colon problem. Cellular studies of colon washings have not yet reached a practical stage.

Much has been written and said about the art of medicine, treatment of the entire individual and evaluation of how the patient's environment affects his health. Our forefathers in medicine called this "common sense."

Patients experiencing bowel dysfunction are frequently sensitive and fearful. They are positive that "something is wrong," and are willing to subject themselves to embarrassment, expense and discomfort to obtain aid. They soon sense and resent disinterest in a physician.

A positive approach and common sense are indispensable to the physician in making a diagnosis of an irritable bowel. This type of dysfunction is due to an over-stimulation and imbalance of the autonomic nervous system of the colon, resulting in increased peristaltic activity, spasm and excessive production of mucus. Other systems too are involved in this same autonomic nervous system disturbance. Further, the patient's personality makes him especially vulnerable to stress and tension. If we put all these factors together, we should arrive at a proper diagnosis.

Few entities give so many clues. In appearance the patients are dressed neatly, conservatively and

• There being no new or advanced technical aids to help the clinician in evaluating colon dysfunction, he must still depend on a careful history, knowledge of the patient, physical examination, which includes sigmoidoscopy, and a few appropriate diagnostic laboratory procedures to arrive at the proper diagnosis. With these means, it is possible to make a positive diagnosis of irritable bowel syndrome, and differentiate it from diverticulitis, ulcerative proctitis and polypoid disease.

without clash of color; tie, socks, shoes and accessories all match. Their manner is polite, they desire to make a good impression, and when in the hospital their bedside-table and immediate area are kept neat and orderly. A few questions indicate that this physical orderliness is also true at work and at home. Those in the business world usually handle jobs of responsibility and detail. The housewife may be active in community work, as well as anxious about her children. When these people assume a task they want to do it well. This would apply even to relatively simple chores, such as preparing a dinner for close friends.

The history of an autonomic bowel dysfunction usually follows a pattern having the following general characteristics: The patient has had similar distress before, perhaps less severe or protracted but rather sudden in onset, with intervals of complete relief. Not infrequently the pattern is so exact that it can be related to job deadlines, week-ends, menstruation, family events, visits and similar happenings. When diarrhea is present it is primarily a morning diarrhea, for at night the autonomic nervous system rests too. (When a patient is awakened from a sound sleep because of abdominal distress, there is good cause.) An irritable bowel may cause the passage of gross mucus, either thick or watery but not bloody; the presence of blood signifies mucosal ulceration.

As the colon is not the only system involved by this autonomic nervous system imbalance, the history invariably includes other signs of anxiety—globus, dry mouth, palpitation, headaches, backaches and sudden fullness after eating. In addition, there is frequently history of previous gallbladder, gastric, pelvic or anorectal operation without any apparent improvement of the complaints.

Upon physical examination, signs of general ten-

Presented before the Section on General Surgery at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

sion usually are noted, occasionally dermatographia and sometimes a rope-like sigmoid colon. With sigmoid spasm, reflux fullness of the ileocecal area is not uncommon. Voluntary spasm of the rectal sphincter is often a feature. In many cases a sigmoidoscope can be inserted with ease for about 15 to 18 centimeters, then suddenly spasm and decided reaction on the part of the patient are encountered. A barium enema study will often demonstrate signs of colon irritability and spasm.

The diagnosis of an irritable bowel should not be made unless there are other signs and symptoms of autonomic nervous system dysfunction in a susceptible patient. If symptoms persist or if the pattern changes, review of the entire intestinal tract is indicated. An irritable bowel does not preclude the development of carcinoma or diverticulitis.

Frequently confused with an irritable bowel syndrome is diverticulitis, which is becoming a problem of increasing magnitude in our aging population. Most persons over 40 years of age have diverticula. Many of them also have an irritable bowel. Diverticulosis and an irritable bowel, however, do not necessarily indicate diverticulitis. Too often this diagnosis is made on inconclusive evidence.

Diverticulitis is an extra or pericolic inflammatory reaction that usually involves the sigmoid colon and adjacent structures. As the process is mostly extracolonic, the diagnosis is usually made clinically rather than by x-ray studies.

Certainly the diagnosis of diverticulitis is tenuous unless the patient has signs of an inflammatory process. These may include a tender, palpable mass, leukocytosis, fever, and evidence of peritoneal irritation. While bleeding may occur with diverticular disease of any type, the burden of proof is with the clinician who attributes bleeding to such a source. The author has on record more than a hundred cases of rectal bleeding initially thought to be due to diverticular disease but subsequently proved to result from a polyp or a carcinoma.

It is clinically most important to bear in mind that the inflammatory process in diverticulitis is extracolonic. A high digital examination of the rectum and vagina are as important as the abdominal examination in detecting what is usually an abdominal and pelvic inflammatory process. Because it is an extracolonic process, signs of involvement of the bladder and adjacent small bowel should be looked for. Diverticulitis is seldom evident on proctoscopic examination.

Partial colon obstruction or dysfunction is not infrequent with diverticulitis. However, it is difficult to obstruct the colon completely, and this seldom happens with diverticulitis. While it may appear contrary to fact, in my experience adjacent small bowel obstruction has occurred more fre-

quently than large bowel obstruction in diverticulitis. For this and other reasons, there is an increased surgical awareness that proximal transverse colostomy has limited value in the treatment of diverticulitis. Carcinoma remains the most common cause of complete colon obstruction.

At times idiopathic ulcerative colitis presents a problem of differentiation from an irritable bowel. There is little difficulty in recognizing the disease when all or a major portion of the colon is involved, but a not uncommon variant of ulcerative disease, termed "ulcerative proctitis" for want of a better name, is frequently overlooked. This form of the disease involves the rectum and on occasion the most distal sigmoid colon, the area that is supplied by the superior hemorrhoidal artery. As with chronic ulcerative colitis, this is an inflammatory-like mucosal submucosal process with myriads of tiny ulcerations that cause a rectal discharge of pus, blood, mucus and cellular debris. This material collects just above the rectal sphincter and causes rectal tenesmus and a rather constant feeling of incomplete evacuation. Frequently a paradox is present. The patient may speak of passing a formed stool, even with some mechanical difficulty, yet have diarrhea. The latter is due not to fecal material but to the discharge.

This anatomically limited ulcerative process, like the more universal colon type, has episodes of exacerbation and remission. While less violent, it seems more refractory to treatment. Furthermore, it may extend proximally to any level.

Only by proctoscopic examination can the diagnosis of ulcerative proctitis be established. Barium enema studies show only that there is no gross evidence of higher involvement, and frequently x-ray studies are entirely negative.

One must beware of making a diagnosis of any form of ulcerative colitis unless there is a transrectal discharge of blood, mucus, pus and cellular debris. A smooth contracted-appearing colon, demonstrated by barium enema study, may simply represent spasm. A disturbed mucosal pattern is the main finding of an ulcerative process.

It is impossible to describe with certainty the typical personality of a patient with ulcerative colitis. Appearance and personality seem to vary with the state and course of the disease.

Finally, whenever there is disturbed function, polypoid disease also has to be considered. An adenomatous polyp or an adenocarcinoma have one common sign: rectal bleeding. Every effort should be made to establish the source of transrectal bleeding. An irritable bowel is not *per se* a source of bleeding.

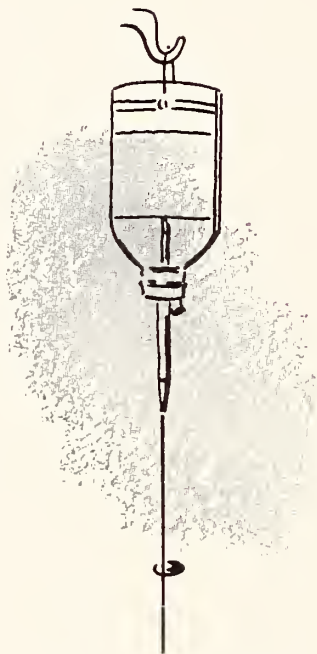
Further, although every adult has hemorrhoids, this does not necessarily mean that they have bled.

A simple rule to follow is that every patient who has rectal bleeding has polypoid disease until proved otherwise. Certainly the passage of dull to dark red blood, bloody mucus, blood clots or blood mixed in the stool indicates a source higher than hemorrhoids.

Many patients and a few physicians have the mistaken impression that the presence of a carcinoma automatically causes pain, decided loss of weight or change in the patient's general appearance. Were we to rely entirely on this for diagnosis, carcinoma often would go undetected. Quite as important as

thorough investigation of bleeding is attention to changes in bowel habits, which when due to a colon carcinoma are usually insidious but progressive. This is in contrast to the varying bowel pattern associated with irritable colon. Questioning of a patient should be directed toward eliciting family history of colorectal carcinoma. Finally, another suggestion of polypoid disease is the presence of various external skin lesions. The squamous epithelium of skin is said to mirror the inner mucosal epithelium.

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The Sjögren-Mikulicz Syndrome

Its Relationship to Connective Tissue Disorders

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WITHIN THE LAST FEW YEARS Sjögren's syndrome and Mikulicz' syndrome, previously believed to be two separate entities, have come to be recognized as a single, combined syndrome significantly related to rheumatoid arthritis as well as to other connective tissue diseases.

That the entity is more common than was formerly supposed is attested by the several large series of cases recently assembled,^{5,16} which have brought the number of reported cases to over a thousand, and by the fact that, when properly tested for, its ocular manifestations have been found to be the most frequent type of eye involvement in rheumatoid arthritis.^{16,17}

Sjögren's Syndrome (Sicca Syndrome). A detailed description of Sjögren's syndrome has been available in the ophthalmological literature since 1933.¹⁴ The condition is characterized by dryness of the nose, mouth, throat and vagina; by a decrease in the quantity of tears, and, as demonstrated electrophoretically, by deficiency of lysozyme in the tears.⁷ This enzymatic deficiency occurs early; it may precede the decrease in quantity of tear production. As tear secretion progressively diminishes, abnormalities develop in the epithelium of the cornea and conjunctiva. At this stage, known as *keratoconjunctivitis sicca*, small punctate defects occur in the cornea, characteristically in its lower half. When the disease becomes far advanced, *fli-form keratitis* ensues: Epithelial threads, often in the form of spiral filaments, are attached at one end to the cornea and float freely at the other.

Mikulicz' Syndrome. Considerable confusion has existed regarding the nature of nonsuppurative relapsing parotid swellings since Mikulicz recorded the first such case in 1892. During the years that followed, a variety of unrelated conditions causing enlargement of the parotid glands were grouped together under the name *Mikulicz' syndrome*, with no regard to the histopathologic features in the

• Sjögren-Mikulicz syndrome, formerly thought rare, is recognized with increasing frequency, especially in middle-aged and elderly women. Often in the past, because of the peculiar swelling of the parotid gland which is a feature of the disease, the gland was removed on suspicion of cancer. New tests can identify cases in which the swelling is a part of the Sjögren-Mikulicz syndrome. In those cases the enlargement may disappear spontaneously or after treatment with corticosteroids. The tests consist chiefly of examining both the quality and the quantity of tears secreted; and in some cases biopsy of the gland may be necessary.

The syndrome appears so often together with rheumatoid arthritis and related diseases as to give indication that it may be related etiologically. The cause is unknown. One possibility is that the patients form antibodies to their own glandular products, which destroy those products.

gland. Within the past decade Morgan and Castleman⁹ defined the changes in the parotid gland of patients with Mikulicz' syndrome. When such diverse entities as Boeck's sarcoid, lymphoma and tuberculosis were excluded, the histologic features in Mikulicz' syndrome were seen to be unique. They consisted of diffuse infiltration with lymphocytes and pronounced alteration of the ducts. Small islands (epimyoeptithelial islands) were formed, containing altered ductal material, and were characterized by hyalinization and fibrosis (Figure 1). When the clinical features of these cases were reviewed,⁸ it was observed that in many of the patients the eyes and mucous membranes had been dry; in a number of instances, the diagnosis of keratoconjunctivitis sicca had been made.

The Combined Sjögren-Mikulicz Syndrome. Because patients who complain primarily of dry eyes (Sjögren's syndrome) often also have parotid enlargement, and because patients with parotid swelling (Mikulicz' syndrome) frequently have dry eyes, the identity of the two syndromes is suggested. When it is recalled that the pathologic findings in the parotid glands of both groups of patients are the same, and inflammatory joint disease is common to both groups of patients,⁸ Sjögren's syndrome and Mikulicz' syndrome merge into one entity. Failure

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Presented before the Section on Internal Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

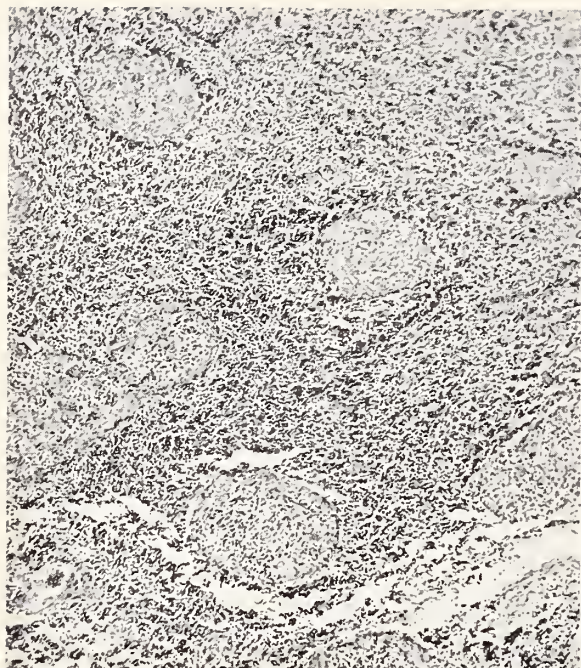


Figure 1.—Photomicrograph of section of parotid gland, showing many epimyoeplithelial islands containing altered ductal tissue and hyaline material surrounded by massive lymphocytic infiltration ($\times 100$).

to recognize their identity in the past had stemmed from the fact that many cases, especially in the earlier stages, represented a *forme fruste* or an incomplete syndrome—in some it was parotid enlargement that was noticed first; in others it was the ocular complication. However, as the disease progressed, the entire triad of mucosal and ocular dryness, parotid enlargement and arthritis would often appear.

In its fully developed form the combined syndrome consists of dryness and atrophy of the conjunctiva, cornea, buccal and nasal mucosa, tongue, throat and vagina, and hyposcretion of the gastric and other exocrine glands. Recurrent nonsuppurative parotitis is frequently present. Arthritis is a usual feature of the disease. The condition mainly affects older women, and familial occurrences have been observed.

RELATIONSHIP TO THE CONNECTIVE TISSUE DISEASES

Arthritis. Sjögren¹⁵ found objective evidence of arthritis in 64 per cent of patients who had the syndrome that bears his name. Other investigators, employing the rigid criteria for the diagnosis of rheumatoid arthritis established by the American Rheumatism Association, have confirmed the frequent incidence of rheumatoid arthritis in patients with the sicca syndrome.³ The presence of positive rheumatoid reactions to serologic tests in as

many as 95 per cent of patients with the syndrome has further demonstrated this intimate relationship.¹ When patients in an arthritis clinic were screened for keratoconjunctivitis sicca by means of the rose bengal test, a positive diagnosis was made in more than 14 per cent.⁵ Keratoconjunctivitis sicca was found in as many as 34 per cent of patients with advanced rheumatoid arthritis.¹⁷ When one considers that rheumatoid arthritis is widespread among the general population, it is apparent that the Sjögren-Mikulicz syndrome can no longer be considered an uncommon clinical problem.

Other Connective Tissue Disorders. Because rheumatoid arthritis resembles the other diseases that primarily affect connective tissue, it is plausible to expect that the Sjögren-Mikulicz syndrome would appear in these diseases as well. In 1952, Pirofsky and I reported recurrent nonsuppurative parotitis in three of 34 patients with systemic lupus erythematosus;¹³ more recently, in reviewing a group of 33 patients with systemic lupus erythematosus¹¹ for the presence of parotitis, it was seen in 7 per cent. When patients with Sjögren's syndrome were investigated for systemic lupus erythematosus, the LE phenomenon was observed in more than 35 per cent.⁴

Sjögren-Mikulicz syndrome also occurs in scleroderma, an association recently reviewed by the author¹² and since reported by other observers.^{1,16} It has been noted, but only rarely, in polyarteritis.^{2,10,16}

ETIOLOGY

The close association between Sjögren-Mikulicz syndrome and connective tissue disorders suggests a pathogenic link between them. The frequent incidence of abnormal serologic reactions in patients with the Sjögren-Mikulicz syndrome is reminiscent of the abnormalities in immune reactions and in serum proteins displayed by the connective tissue disorders. Bloch and associates¹ found hypergamma globulinemia in 71 per cent, positive reaction to the Coombs test in 25 per cent, and thyroglobulin antibodies in 14 per cent. The striking similarity between the pathologic changes in the parotid gland in Sjögren-Mikulicz syndrome and those in the thyroid gland in Hashimoto's disease has suggested that an autoimmune mechanism may operate in the Sjögren-Mikulicz syndrome. This hypothesis is strengthened by the occasional demonstration of antibodies to extracts of lacrimal and salivary glands in the blood of patients with the syndrome.⁶ Although at this stage of knowledge much regarding pathogenesis is still unclear, the immunologic approach appears to be most promising.



Figure 2.—Schirmer test—a measure of tear secretion.

DIAGNOSIS

Although all features of the combined syndrome may not be manifest, particularly in the early stages of disease, appropriate diagnostic tests should be performed in any patient with dryness of the eyes and mucosal surfaces, or idiopathic enlargement of the parotid gland, especially when noted in conjunction with arthritis. The tests, which are in the main simple and readily available, are as follows:

Tests for Ocular Manifestations. The quantity of tears produced may be measured by means of Schirmer's test (Figure 2). Filter paper of standard size is inserted under the lower lids. The normal subject wets 15 mm. of the paper in five minutes; patients with the Sjögren-Mikulicz syndrome will wet less than that. In advanced cases the test paper may remain completely dry. This is a screening test, and may occasionally give false-positive responses, especially in elderly persons, but one can be relatively confident if only 5 mm. or less of the paper is wet in the given time.

The electrophoresis of tears represents a more precise test of lacrimal secretion. There is decrease or absence of lysozyme in the tear fluid as an early and constant finding in keratoconjunctivitis sicca. Unfortunately this valuable test is limited because it requires special equipment and technical skill.

The punctate defects in the cornea designated as "keratoconjunctivitis sicca" may be discerned through a slit lamp after instillation of a 1 per cent solution of fluorescein. Fluorescein paper strips may also be employed, and if a slit lamp is not available a magnifying glass may be used.

Instillation of rose bengal dye is an alternative to slit lamp examination. Cautious interpretation is necessary since in sensitive persons the dye itself occasionally causes epithelial trauma. Topical anesthesia beforehand is advisable to avert pain. A positive reaction to the rose bengal test is intense staining of the conjunctiva. Red triangles appear with their bases toward the cornea, filling the palpe-

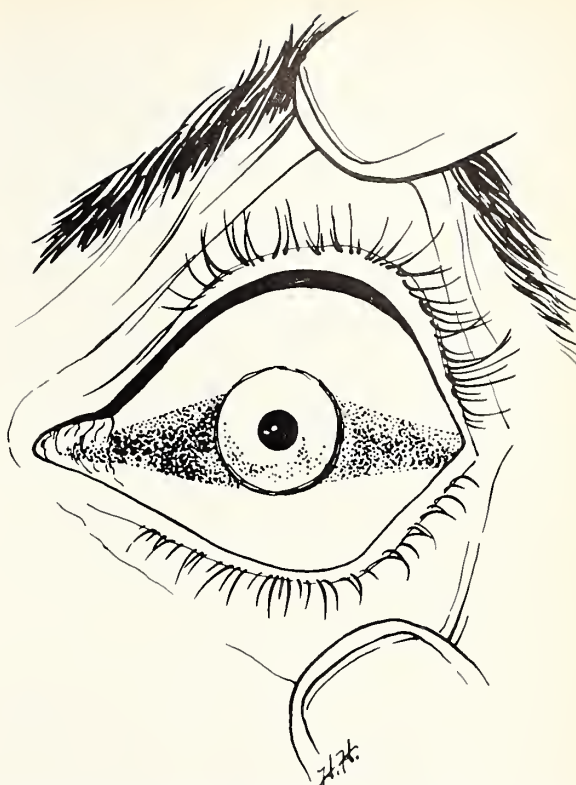


Figure 3.—Appearance of the eyes (with rose bengal solution) in keratoconjunctivitis sicca.

bral aperture (Figure 3). In earlier stages of disease, staining may be limited to irregular discontinuous areas of the conjunctiva. These are not diagnostic; they are occasionally seen in apparently normal subjects.

In a small proportion of patients filiform keratitis develops as a late complication of the disease. This can be diagnosed with a corneal microscope by the characteristic appearance of the filiform epithelial threads. One should not wait for this advanced sign before making the diagnosis of Sjögren-Mikulicz syndrome.

Test for Parotid Gland Manifestations. Enlargement of the parotid gland often suggests neoplasm, and may lead to parotid extirpation with its risk of facial palsy. The diagnosis of Sjögren-Mikulicz syndrome as the cause of the enlargement may be confirmed by biopsy. Punch biopsy of the parotid has been used successfully, but surgical biopsy appears to be the safer procedure.

THERAPY

Treatment for the parotid enlargement is seldom necessary, since the gland frequently subsides spontaneously. In some cases the administration of steroids is followed by prompt detumescence, a re-

sult that may be related to the anti-inflammatory action of these compounds.

Parenterally administered steroids appear to have no consistent effect on the ocular manifestations. Protective eyeglasses plus the liberal use of methyl cellulose or cortisone eye drops are of real value. Eyeglasses that squirt fluid into the eyes have been devised for use in advanced cases, but they are cumbersome and are seldom if ever necessary.

When the sicca syndrome is accompanied by systemic illness, such as rheumatoid arthritis, the symptoms of arthritis are usually more distressing than those of the sicca syndrome and appropriate therapy should be directed toward the associated disease.

The following case of Sjögren-Mikulicz syndrome in association with polyarteritis is briefly described, because (1) this relationship has so rarely been reported, and (2) it points up the possibility that surgical extirpation of the parotid gland may be avoided in cases of this syndrome.

REPORT OF A CASE

A 36-year-old white housewife had had good health until age 26 when bilateral parotid swelling, severe joint pains, fever, adenopathy and splenomegaly developed. Results of laboratory tests showed moderate normochromic anemia and a biologically false-positive serological reaction. The symptoms subsided after one week in hospital and the patient remained well for two years. Then the left parotid enlargement recurred. Because of suspicion of a parotid tumor, the gland was removed. Microscopic section (Figure 1) showed epimyoeplithelial islands containing altered ducts surrounded by lymphoid tissue, the characteristic features of Mikulicz' syndrome. Over the next few years the patient continued to complain of aching in the larger joints and in the back and noted progressive dryness of the mouth. Recently, at the age of 36, she had a severe bout of chills with fever, the temperature rising to 104° F. (40° C.). Generalized adenopathy and moderate splenomegaly were noted. The hemoglobin level was 9.8 gm. per 100 ml. of blood; leukocytes numbered 3,000 per cubic centimeter. No protein abnormalities were demonstrated by electrophoresis of serum, and responses to the LE preparation and to Latex agglutination tests were negative. Biopsy of an anterior cervical lymph node showed necrosis of the medullary arterioles with fibrin thrombi and perivascular neutrophilic infiltration, changes consistent with panarteritis.

Three months later the patient had another episode of spiking fever, associated with diffuse adenopathy and splenomegaly. The right parotid

gland became grossly swollen and painful but the swelling subsided without specific treatment in four days.

For the six months preceding the time of this report the patient complained of dryness of the eyes and of progressive increase in the dryness of the mouth. Upon examination of the eyes with fluorescein, a few small superficial punctate staining areas were observed in the lower third of each cornea. Response to the Schirmer test was normal in each eye but electrophoresis of a tear sample revealed slight diminution of lysozyme, which may represent early involvement of the lacrimal glands. Use of methyl cellulose eye solution apparently relieved the ocular symptoms.

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Vernal Conjunctivitis as an Atopic Disease

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ATOPY, an allergic state that occurs in man, is characterized by skin-sensitizing antibodies called reagin. These antibodies are directed toward various naturally occurring substances such as pollen, house dust, animal danders and occasionally food. About 70 per cent⁸ of persons with hypersensitivity of this order report that other members of their immediate families also have it.

The disease usually starts in childhood. The major manifestations of atopy are asthma, perennial allergic rhinitis and atopic dermatitis. A frequent concomitant is eosinophilia in the circulating blood or in material from some local site. The diseases are linked together as part of the atopic syndrome, as they have in common the above characteristics.

The etiologic agents of atopy are not always identified in all cases. Pollen is the cause of hay fever; house dust and epidermal products are the cause of certain cases of perennial asthma and allergic rhinitis. Some cases of atopic dermatitis have been traced to one or more of the atopens. However, the etiologic agent or agents that are supposed to be basic in cases of atopic disease have not always been found.

Until evidence to the contrary is presented, the atopic diseases should be investigated clinically and experimentally as a variation of the same basic abnormality, for two compelling reasons: (1) Different types of atopic disease often occur at the same time or serially in the same patient or family; (2) the same group of antigens has been found to be responsible in all of the diseases at one time or another.

Vernal conjunctivitis is an eye disease of childhood, with many of the characteristics of an allergic reaction. Its most striking feature is the cobblestone excrescence on the underside of the upper lid.

Is vernal conjunctivitis an atopic disease? Since there was no diagnostic or laboratory test to give the answer, we selected 30 patients with vernal conjunctivitis and measured them by the laboratory criteria used in patients with hay fever, namely: (1) positive reaction to skin tests with grass pollen;

• In a study of 30 cases of vernal conjunctivitis, antibodies to grass pollen were demonstrated in 16 of 29 patients tested by direct skin tests, in 11 of 30 tested by the Prausnitz-Kustner method and in 22 of 30 by the bis-diazotized benzidine hemagglutination method.

A personal history of major atopic disease was found in 13 of 27 patients, and a family history of atopic disease in 16 of 26 patients questioned.

Conjunctival eosinophilia was found in all cases. Results of the study indicated that vernal conjunctivitis is an atopic disease.

(2) serum antibodies to grass as demonstrated by the Prausnitz-Kustner (P-K) serum passive transfer test and the bis-diazotized benzidine hemagglutination technique.⁵

Hay fever was selected because it has, in common with vernal conjunctivitis, the remarkable feature of exacerbation in the spring and subsidence in the winter. Rye grass was selected as the antigen for the hemagglutination test for two reasons: (1) Grasses (with the possible exception of Bermuda) have antigens in common,⁴ so that the group may be represented, although not entirely, by one grass; (2) rye grass is one of the most common offenders to hay fever sufferers in the State of California.

MATERIALS AND METHODS

Patients in whom vernal conjunctivitis was diagnosed by an ophthalmologist were referred to the Francis I. Proctor Foundation for Ophthalmological Research for examination or were observed in the referring physician's office. All but three of the patients were examined by the author. Patients in whom clinically there was some doubt as to a diagnosis of vernal conjunctivitis, and also those who had a history of past vernal conjunctivitis but did not have the disease at the time of examination were excluded from the study.

A history, cultures of materials from the conjunctiva and lids and smears for eosinophils were taken. Blood was drawn for P-K and hemagglutination studies. Intradermal skin tests were performed on the forearm, using 0.05 of a 1:660 dilution of mixed California grasses, a 1:660 dilution of rye grass (*Lolium perenne*), and a control of diluting (Coca's) solution; reactions were read in 15 and 30 minutes in all cases.

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Presented before the Section on Allergy at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

TABLE 1.—Summary of Allergic Data on Patients with Vernal Conjunctivitis

Type of Examination	No. Examined	Positive	Questionable
Antibodies to grass pollen as demonstrated by:			
Direct skin test.....	29	16	5
P-K* test	30	10	0
Hemagglutination reaction	30	22	0
Major atopic disease found in:			
Personal history	27	13	1
Family history	26	16	1
Exacerbation in spring.....	26	17	5

* Prausnitz-Kustner.

Two groups were used as controls in the antibody studies. Twenty-six patients with seasonal hay fever served as positive controls. All had positive reactions to skin tests with grass, and 19 had hemagglutinating antibody to grass in their blood. Thirteen of the hay fever patients were hyposensitized to grass—ten currently, three having been treated in the past. (Current hyposensitization results in the formation of hemagglutinating antibody to grass in an allergic or nonallergic person.)⁷ The normal controls consisted of 60 persons, mostly children, who had no history of hay fever and who had negative reaction to skin tests. All hemagglutination tests in this group were negative.

RESULTS

Twenty-nine of the 30 patients were skin tested; 21 had skin-sensitizing antibody to grass as demonstrated by the intradermal direct skin test. In ten the reaction was strongly positive (+++ to +++++), in six it was moderately positive (+ to ++), and in five weakly or questionably positive (±). (See Table 1.) As might be expected, the ten patients who had positive reaction to the P-K test were among those who had moderately to strongly positive response to skin tests. However, hemagglutinating antibody was found in about the same incidence in the strongly, the moderately and the weakly positive groups. Twenty-two of the 30 patients had hemagglutinating antibody to rye grass in the blood. The hemagglutination test and its relation to vernal conjunctivitis and other atopic antibodies is discussed elsewhere.²

Personal or family history was considered "positive" only if there was report of one of the major allergic sensitivities. With the use of this criterion, 13 of 27 patients had a positive personal history and 16 of 26 patients had a positive family history. Over half of the patients reported that in the spring and summer they had definite exacerbation of the ocular symptoms—itching, lacrimation, photophobia and burning. The worst months were May, June and July.

Specimens of material from the conjunctiva were

examined in 15 cases and a significant number of eosinophils was noted in all of them. No disease was uncovered by culture of material from the conjunctivae and the eyelids.

Twenty-three of the 30 patients were under 15 years of age. The average age for those less than 15 was 8.4 years and the average age for all patients was 12.8 years. Twenty-five of the 30 patients were males, a preponderance that has been observed in almost all reports on vernal conjunctivitis.^{1,3,6} No endocrine peculiarity has been found to explain this phenomenon.

DISCUSSION

Clinical evidence in vernal conjunctivitis, as well as the presence of serum antibodies in persons with hay fever and not in normal subjects, would indicate that this disease is atopic. The correlation of positive reaction to skin tests, seasonal variation of disease and the presence of antibody to rye grass strongly incriminates grass as an etiologic or influencing factor in vernal conjunctivitis. Patients who did not have serum antibodies usually also had negative reaction to skin tests and had no seasonal variation of disease.

If vernal conjunctivitis is an atopic disease with grass pollen sensitivity as the etiologic or influencing factor, it is reasonable to assume that some cases would be caused by other atopic allergens such as house dust, animal danders or other perennial antigens. Pertinently, hay fever symptoms of sneezing, lacrimation, itching of the nose and rhinitis are not all from grass: house dust and epidermals also can be the cause.

ACKNOWLEDGMENT: The author would like to thank Phillips Thygeson, M.D., and the Francis I. Proctor Foundation for Ophthalmologic Research at the University of California for help and support in this and related projects.

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Acute Myocardial Infarction

Urine Glutamic Oxalacetic Transaminase Activity

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THERE IS general agreement as to the diagnostic value of serum glutamic oxalacetic transaminase (SGO-T) determinations in patients with diseases of the heart, liver and skeletal muscle.^{*} The ultimate fate of the serum enzyme in the body is unknown. Since blockage of the reticuloendothelial system with India ink does not result in increased serum activity, sequestration of this enzyme in those cells is apparently not significant.³ Hill and coworkers⁴ measured the excretion of this enzyme in the bile of rats following intravenous injection of transaminase. In the control animals, very small amounts of transaminase were excreted in the bile intermittently, the total amount never being more than 30 units in 10 hours; none of the rats excreted more than 1 per cent of the injected transaminase or apotransaminase. Therefore, in rats, the bile does not appear to play a significant part in the excretion of transaminase.⁴ Dunn and coworkers² in experiments on normal mongrel dogs and dogs with artificially produced myocardial infarctions were unable to recover significant amounts of GO-T in the bile. The role of the kidney in the inactivation or excretion of this enzyme has been partially clarified. No measurable amounts of GO-T were detected in the urine of normal dogs after the intravenous administration of GO-T or in dogs in which myocardial infarctions were produced; it was not stated whether these determinations were made on 24-hour urine specimens or on fresh specimens. The rate of disappearance from the serum remained approximately the same in dogs without kidneys, indicating a lack of inactivation by the kidneys. Rosalki¹² found small amounts of lactic dehydrogenase (LD) and GO-T in the 24-hour urine specimens of normal persons and in three patients with acute myocardial infarction. However, in patients with acute renal disease, the urine LD to a moderate degree and the urine GO-T (UGO-T) to a lesser degree became elevated. Therefore, we sought to evaluate the activity of glutamic

• The urinary content of glutamic oxalacetic transaminase (UGO-T) was determined in 16 consecutive patients with acute myocardial infarction. In all of them it was above normal.

In some patients the UGO-T remained elevated for a longer period than did the blood content of that enzyme.

It is possible that in certain patients with acute myocardial infarction the kidneys eliminate significant amounts of GO-T.

oxalacetic transaminase in freshly voided urine of normal persons and of patients with acute myocardial infarction because these determinations had not been previously reported. The enzyme activities were determined by the spectrophotometric method.⁷ The urine pH did not influence the activity of the enzyme in the urine. However, the activity of the enzyme slowly disappeared on standing, the decreased activity becoming apparent after 30 minutes of standing. Hence the determinations were performed within 30 minutes of collection. This reduction in activity was not constantly influenced by moderate refrigeration, but the specimens could be frozen for 48 hours without loss of any activity. The decreased activity on standing apparently accounts for the small amounts of this enzyme detected in 24-hour specimens in both controls and patients with acute myocardial infarction reported heretofore.

There was no apparent relationship between the presence of enzyme activity and the presence or amount of proteinuria. Urine determinations were made on 59 control patients with no evidence of acute disease of the heart, liver, or skeletal muscle. Only one determination was over 9 units; in 14 consecutive controls, the mean determination was 5.5 units per ml. of urine per minute with a standard deviation of 3.1. Sixteen consecutive patients with acute myocardial infarction were evaluated by daily determinations of the UGO-T. As may be seen in Chart 1, the UGO-T activity was elevated in all of these patients with acute myocardial infarction. The peak levels varied from 17 to 53 units. There did not appear to be a linear relationship between the

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Presented before the Section on Internal Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

*References No. 1, 5, 6, 8, 9, 11, 13, 14.

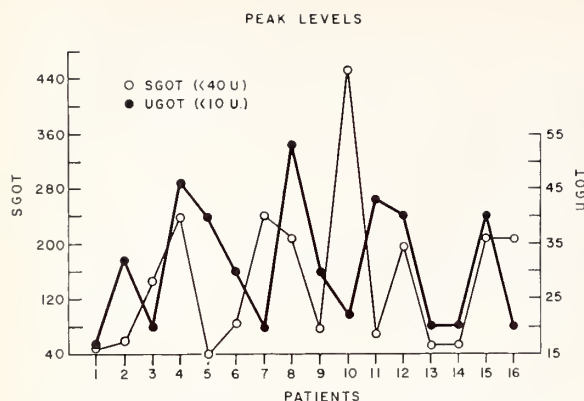


Chart 1 plots the peak levels of urine (heavy line) and serum (light line) oxalacetic transaminase activity seen in 16 consecutive patients with acute myocardial infarction.

height of elevation in the serum and in the urine. However, the charted curve of the content in the urine generally followed the curve of the serum content. The activity was usually elevated in the first 24 hours after infarction, reached a peak in 24 to 48 hours, and usually returned to normal in 72 to 96 hours. The UGO-T elevations were two to five times the upper limits of normal. Chart 2 depicts the duration of elevation of SGO-T and UGO-T. Although no clear-cut pattern is obvious, there is a tendency for the UGO-T to remain elevated for two to three days longer than the SGO-T.

REPORTS OF TWO CASES

The following case reports document many of the relationships mentioned above.

CASE 1. A 33-year-old white male physician had severe substernal chest pain at 1 a.m. An electrocardiogram was typical of a classical evolution of an acute transmural anteroseptal myocardial infarction. The daily SGO-T and UGO-T determinations are shown in Chart 3. The UGO-T activity was elevated eight hours after the acute episode of chest pain and remained elevated for 20 days. There was no relation between the degree of elevation of UGO-T and SGO-T on any given day.

This case report demonstrates that the UGO-T may become elevated very early after a myocardial infarction, tend to follow the general course of the SGO-T, and remain elevated after the SGO-T has returned to normal.

CASE 2. A 44-year-old white man had acute myocardial infarction on June 25. As can be seen in Chart 4, the SGO-T remained elevated until June 30 while the UGO-T was still almost at the peak level on July 2, illustrating a tendency (noted in several patients) for the UGO-T and SGO-T curves to run parallel, but for the former to remain elevated longer.

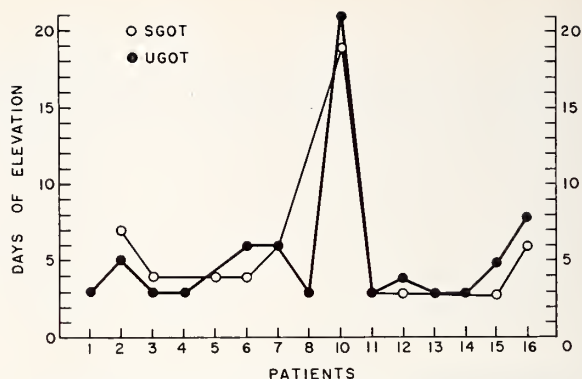


Chart 2 compares the duration of elevation of urine (heavy line) and serum (light line) glutamic oxalacetic transaminase activity in 16 patients with acute myocardial infarction.

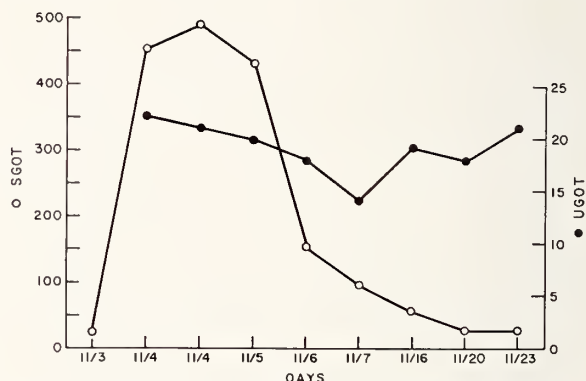


Chart 3 depicts the urine (heavy line) and serum (light line) glutamic oxalacetic transaminase activity in a patient with a severe myocardial infarction. Note that the UGO-T remained elevated for several days after the SGO-T returned to normal levels.

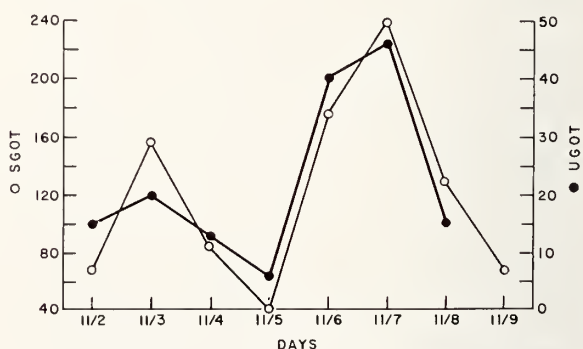


Chart 4 represents the pattern of the urine (heavy line) and serum (light line) glutamic oxalacetic transaminase activities in a patient with acute myocardial infarction. See text for discussion.

DISCUSSION

The diagnostic value of urinary GO-T determinations would appear to be obvious. The procedure is not only an additional method of diagnosing acute myocardial infarction without resort to multiple

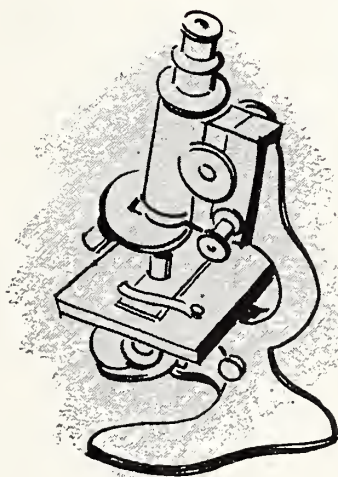
venipuncture, but in certain patients it may detect elevations after serum content of this enzyme has returned to normal.

It has been estimated that normal heart muscle contains 300,000 to 400,000 units of GO-T per gram of tissue and that 30 per cent may be lost during the first 24 hours after acute myocardial infarction;¹⁰ since peak levels of 40 to 50 units per milliliter of GO-T in the urine were detected in a few of the patients in the present series, if we may postulate a urinary output of about 1,500 milliliters, these patients may have eliminated 70,000 units of GO-T via the kidneys. Thus, contrary to previous reports, the kidney may in some patients excrete a significant amount of this enzyme.

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Milk Let-Down

The Use of Intranasal Oxytocin for Nursing Mothers

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MILK LET-DOWN or milk ejection is a forcing out of milk as a result of the action of oxytocin on the myoepithelial elements of the postpartum breast. Several investigators have found that only a part of the milk present in the mammary gland can be drawn out by suckling, and that the contractile system is necessary for the evacuation of milk from the alveoli and finer ducts.^{1,3,5}

The intramuscular administration of oxytocin has long been known to produce milk let-down in animals and humans.^{2,4,6} However, since new mothers are discharged from the hospital on the third or fourth postpartum day, at a time when lactation has only begun, a method of self-administration is necessary if exogenous oxytocin is to be used to increase the flow of milk. Hence a study was carried out to test nasal spraying as a suitable method of administration.

Of 100 nursing mothers dealt with in private practice in a period of 18 months, 50 were given a nasal spray preparation containing oxytocin (Syntocinon® 40 I. U. per cc.) to use at home. All patients, controls as well as subjects, received intramuscularly 5 units of Syntocinon a day for two days just before they began breast feeding, on the third and fourth days postpartum. Thereafter, the controls received no oxytocin by any means. In the early part of the study the patients using the spray were told to put it into each nostril while lying down, squeezing the container so that a sufficient amount of material was delivered to produce a droplet in the posterior pharynx. Later the patients were instructed to use the spray in the upright position, in order to obtain greater dissemination and absorption. It was estimated that this method supplied approximately 10 units of oxytocic solution in each nostril. The spray was to be used about 5 minutes before each feeding time.

Although no definite criteria were established beforehand for selecting patients for use of the spray, generally it was given to those who were apprehensive about their ability to nurse, those who had had or were having difficulty with the flow of milk, and

• A study was carried out to determine whether intranasal spraying with a solution of oxytocin was an effective way to increase flow of milk in mothers who wished to breast-feed their babies.

A hundred such women were given the drug intramuscularly for two days before they were to begin nursing. Then administration by that means was discontinued and 50 of the hundred were given oxytocin nasal spray kits for use at home. In general the patients receiving the spray kits were those who were apprehensive about sufficient lactation, those who had had previous difficulty and those who had flat, inverted or tender nipples.

Results were not much different between the 50 women who used the spray and the 50 controls, but since the former group included the "difficult" cases, some benefit may be attributed to the aerosol therapy. Ninety per cent of those who used it said they would be willing to use it again.

those who had flat, inverted or tender nipples. Engorgement of the breasts was not a frequent problem, apparently due to the intramuscular use of the oxytocin, and therefore was not often a factor in selecting patients who were to use the spray. The nursing mothers who had a free flow of milk by the time they were ready to leave the hospital, and whose babies were suckling well, usually declined the opportunity to use the supplementary oxytocin.

Intramuscular injection of 5 units of oxytocin after the flow of milk had been established produced drops of milk at the nipple in from 30 seconds to two minutes. When 10 to 20 units of oxytocin was delivered into the nasal mucosa by the spray, drops began to form at the nipple within three minutes, and by five minutes there was dripping of the milk from both breasts, although the greatest flow came from the breast not used at the previous feeding.

The responses of the nursing mothers to retrospective questions were, of course, subjective, but since the controls were as subjective as the patients who used the spray, the answers may be considered to have statistical value.

In this study, the controls showed a somewhat longer period of nursing, but this was due largely to continuance of breast feeding for many months

Presented before the Section on Obstetrics and Gynecology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.



Figure 1.—Breast of nursing mother, left to right, five, six and seven minutes after intranasal spraying with oxytocin solution.

by a few of the women in that group. Painful nipples are usually related to the time at breast and the availability of milk; the spray seemed to decrease this problem since the babies were not required to suckle so vigorously. There was no indication that involution of the uterus was hastened by the exogenous oxytocin, but in neither group was there evidence of subinvolution. Only a few patients objected to the sensation of the material running into the pharynx. One patient did complain of the residual taste.

A relatively high proportion of patients said they would breast feed again, and an even higher proportion said they would be willing to use the nasal spray again. Even though the possibility of using buccal tablets instead was suggested to them, they expressed no reluctance to use the spray method.

From data in Table 1 it is obvious that the differences between the two groups were relatively small, but since the patients who used the spray were less favorable candidates for nursing, we believe that use of the spray brought them to a condition approximating that of the control group. Moreover it was the author's impression that use of the spray greatly encouraged mothers who were apprehensive about their ability to nurse, particularly at the outset.

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TABLE 1.—Data on Effects of Oxytocin Nasal Spray by Nursing Mothers

	Those Who Used Oxytocin Spray	Controls
Number of weeks of nursing*	7.5	10.7
Minutes per feeding	30	28.6
Painful nipples	20%	25%
Average number of weeks of uterine bleeding	5	4.5
Painful uterine cramps	5%	5%
Local effects (mild) in nasopharynx	5%	.....
Improvement over previous experience (multiparae)	66%	.....
Would breast feed again	70%	75%
Would use nasal spray again	90%

* Termination of nursing was almost always voluntary.

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Criminal Abortion

A Consideration of Ways to Reduce Incidence

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THE PROBLEM of criminal abortion shall remain essentially unchanged as long as we continue our current social attitudes, foremost among which is our refusal to speak about it. The intention of this presentation is to air the problem and its extensive ramifications in the belief that bringing it into the open is a prerequisite to solution.

It is apparent that abortion is part of our social mores although society steadfastly refuses to acknowledge this to be so. The taboo that is discernible surrounding illegal abortion is concerned more with talking about it than the actual act itself. It would appear that there is a rather direct derivation of attitudes concerning abortion from the prevailing attitudes towards sex in general. As an example, one might examine the position of masturbation in our culture. No one would deny its prevalence, nor could anyone deny the powerful silence that surrounds it.

Most persons, including those in professions concerned with the matter, react with amazement and disbelief when confronted with mounting evidence suggesting that one of every five pregnancies in this country terminates in illegal abortion. Difficult though it is to accumulate statistics on the subject, a surprising similarity has been noted in various studies made within the past 30 years.¹ If we are to accept the general trend observed, we have to consider the possibility that more than one million abortions will be done in the United States in 1960, and if we use Fisher's mortality estimate,² more than 5,000 women may die as a direct result.

The work of Gebhard, Pomeroy, Martin and Christenson,^{1a} of the Kinsey group, provided new and illuminating insights into many facets of illegal abortion. The sampling used in their study was not designed to be representative of the population of the United States. It is possible, nevertheless,

• The problem of criminal abortion in the United States is of enormous magnitude, both in terms of incidence and of resultant morbidity and mortality. Several studies suggest that one of every five pregnancies terminates in criminal abortion, or a total of more than one million abortions for 1960, with a possibility of more than 5,000 deaths resulting therefrom.

The inadequate laws regarding therapeutic abortion in most jurisdictions contribute much to the problem. Tracing the origins of these laws provides additional clues concerning the development of this enigma.

Suggested answers to the problem include: (1) Broadening and clarifying therapeutic abortion laws to reflect current medical practice, yet provide stringent controls; (2) prevention of unwanted pregnancy through consultation centers for women, encouragement of contraceptive research and education of the public.

to discern certain meaningful trends, mostly representative of our urban population of higher educational attainment.

Some of the highlights of the Kinsey group's study were: (1) One of every three to four women having live births had one or more abortions; (2) the higher the educational level, the greater the tendency to seek abortion: thus white and negro unmarried women with a college education were found to have the highest abortion rate—well over 80 per cent; (3) illegal abortion is more a problem of married women having several children, contrary to the popular notion that it mostly involves illegitimate pregnancy. The more pregnancies a woman has had, the more likely she is to seek abortion. This agrees with the findings of Kopp^{1c} in her study which was done 25 years earlier (see Figure 1); (4) a lower abortion rate was found in women relatively active in their religious groups.

Gebhard and coworkers were able to demonstrate that induced abortion did not result in the ill effects that had been so generally assumed by others. Statistically their material gave no evidence of any resultant sterility or damage to capacity for achieving orgasm. Other physical and psychological after-effects appeared less frequently than had been previously supposed. Preliminary findings

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Submitted August 25, 1960.

Opinions expressed herein by the writers are their personal views and do not purport to represent the views of the District Attorney of Los Angeles County or the policy of the District Attorney's office.

Read before the Section on Obstetrics and Gynecology at the 109th Annual Meeting of the American Medical Association, Miami Beach, June 16, 1960.

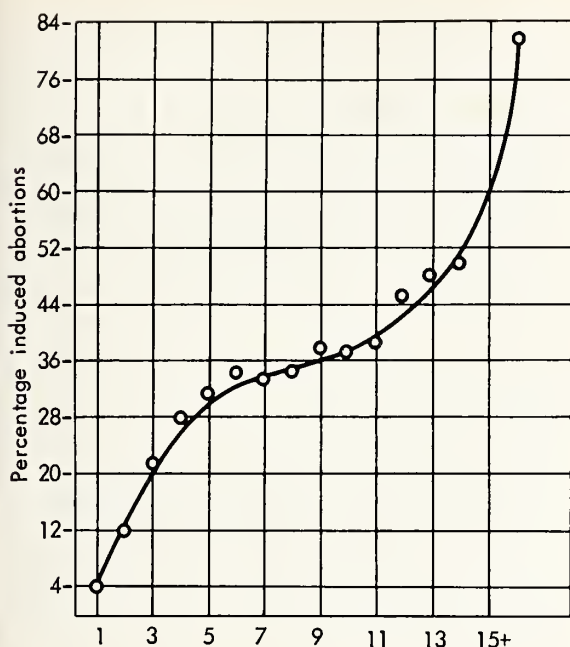


Figure 1.—Percentage of pregnancies terminating in induced abortion according to order of pregnancy, the numbers across the bottom indicating the number of pregnancies (after Kopp^{1c}).

of a study we are currently involved in suggest that moderate or severe psychiatric sequelae of induced abortion are indeed rare, most psychiatrists queried having encountered either none or very few cases—an insignificant figure when compared with the number of postpartum psychiatric illnesses, which, in a previous study by one of us,³ was found to account for 2 per cent of female admissions to mental hospitals, or one in 500 births.

If the ill effects of induced abortion have been so grossly exaggerated, we must ask ourselves why. Might the answer be that this was part of the means of enforcing the taboo?

Induced abortion can be traced back as far as recorded history. It has been found in all societies with only very rare exceptions. The reasons for abortion have been legion, ranging from superstition and vanity on the one hand to very real physical and economic pressures on the other.

Our legal position can be traced to the Judaeo-Christian tenets; but our social attitudes, with all their contradictions appeared as far back as Hippocrates, who, although he exhorted against prescribing abortifacients, is recorded as having directed a rich entertainer, burdened with an inconvenient pregnancy, to leap into the air seven times with such vigor that her heels should touch her buttocks; and upon her doing this, the conceptus "fell onto the floor with a plop!"⁴

The foregoing contradiction is regularly reflected in current medical attitudes and behavior. While very few physicians are believed to be engaged in the performance of illegal abortions, a good many refer patients to illegal abortionists indirectly, and some directly, even in writing.⁵ Although the majority of physicians probably have a reasonably tolerant attitude toward this practice, most of them scrupulously refuse even to discuss abortion with their patients. As Timanus⁵ said, society "abandons the woman in her greatest need."

LAWS GENERALLY DISREGARDED

This contradiction is further reflected in our society as a whole and more specifically in our legal institutions, as will be described later. Although criminal abortion is labeled a felony, the abortees are almost never prosecuted and for professional abortionists the rate of prosecution is low and the rate of conviction even lower.⁶ It is apparent that morals, religion and the criminal law offer little restraint when it comes to abortion, leading Taussig to remark that he knew "of no other instance in history in which there has been such frank and universal disregard for criminal law."^{1b}

Guttmacher⁷ states unequivocally "that the abortion laws in the United States make hypocrites of all of us." More than 90 per cent of the therapeutic abortions done at Mount Sinai Hospital in New York City did not fall strictly within statutory requirements "to preserve the life of the mother." Hospital authorities and physicians vary widely in their interpretation of the laws and their willingness to place themselves in jeopardy of prosecution. In a recent survey of California hospitals, 18 of 24 replied that therapeutic abortions were performed knowingly in violation of the law.⁸

Most physicians have conflicting feelings about recommending abortion to preserve the health of the patient. Physicians are entitled to laws that reflect current medical practice and opinion, in which "preservation of the mother's health" is accepted as indication for therapeutic interruption. If there was ever any doubt as to physicians' acceptance of criteria short of saving the mother's life, one has only to consider the question of rubella during early pregnancy (without wishing to become involved in the dispute over the incidence of congenital defects). When it was thought that a high incidence of defects occurred, the acceptance of this disease as a proper indication was quite generally held. Yet how could that possibly be construed as preserving the mother's life?

In general

"The law of this land has always held human life to be sacred, and the protection that the law gives to human life it extends also to the unborn child in the womb. The unborn child in the womb must not be destroyed unless the destruction of that child is for the purpose of preserving the yet more precious life of the mother."

The foregoing, which was excerpted from Mr. Justice Macnaughten's instructions to the jury in *Rex v. Bourne*⁹ (1938) is a general statement of the law of criminal abortion as it now exists throughout most of the United States and a great part of the western world, including France, West Germany, Great Britain and most of the British Commonwealth nations. Latin American laws are somewhat more relaxed; there, mental deficiency, danger to a woman's health and pregnancy from sex offenses are lawful indications for therapeutic abortion. The Scandinavian nations, with Sweden leading, have for many years allowed even broader indications for therapeutic termination of pregnancy, going so far as to include eugenic reasons (severe hereditary taint), socio-medical grounds, and pregnancy in very young girls. Japan and the Soviet Union not long ago fully legalized induced abortion, providing that only skilled medical practitioners could perform the operation. This paper will not discuss in detail the attempts of foreign countries to deal with the abortion problem, but interested readers are directed to Gebhard,¹⁰ Calderone¹¹ and numerous other studies published in the United States.¹²

IN THE UNITED STATES¹³

The procurement or attempted procurement of an abortion by any means whatsoever has been declared in every state in the Union to be a felony. Each jurisdiction, however, has in one form or another an exception to the harsh prohibitory law (Table 1).

Statutory exception never interpreted in United States

In none of the forty-two states having the narrow exception has a court of law ever defined the scope of the words "to preserve the life of the mother." There is no legal precedent in any of these states giving assurance that preservation of a woman's health would be justification for inducing an abortion. On the other hand, although almost all therapeutic abortions are to protect the woman's health and are in clear violation of the law, there are no known prosecutions of licensed medical practitioners who, before terminating pregnancy, obtained either concurring medical opinion as to the

TABLE 1.—Legal Exceptions to Laws Prohibiting Abortion

	No. of States
To preserve life of mother.....	42
To preserve life or health of mother.....	3①
To save life of mother or to prevent serious or permanent bodily injury to her.....	2②
When physician is "satisfied that the fetus is dead, or that no other method will secure the safety of the mother."*	1③
Statute requires for violation that act be done:	
"Unlawfully"*	2④
"Maliciously or without lawful justification"*	1⑤
Total jurisdictions	51

① States: Alabama, Oregon, Washington, D. C.

② States: Colorado, New Mexico.

③ State: Maryland.

④ States: Massachusetts, Pennsylvania.

⑤ State: New Jersey.

*The few cases available indicate that these statutes would be applied liberally and reasonably to a licensed medical practitioner acting in good faith to preserve the life or health of the mother.

necessity of therapeutic abortion or permission from hospital boards.¹⁴

British court interprets statutory exception

There is but one noted judicial interpretation of the narrow exception, and that is to be found in the charge to the jury sitting in the famous English case of *Rex v. Bourne*.⁹

Dr. Alec Bourne, a leading obstetrician, openly and without fee, performed a therapeutic abortion on a 14-year-old girl who had been impregnated as a result of forcible rape by several soldiers. Dr. Bourne sought arrest and trial in order to obtain clarification of the law. He maintained that the girl would have become an emotional wreck if compelled to bear the child, and that a woman whose health is threatened by pregnancy should not have to be in the jaws of death before abortion could be lawfully performed. The court sustained the defense and the judge's instructions to the jury remain as the highest interpretation of the English statute, which specifies that abortion can only be performed to preserve the mother's life. The Bourne case has not been followed in the United States, as British judicial interpretation is only persuasive authority and not binding on American courts.

One cannot discuss the law of abortion without taking into account the historical moral and religious objective of protecting the unborn child, for this continues to be a major factor accounting for the law as it is today.¹⁵

Induced abortion considered immoral

There seems to be no doubt that in our present-day society a certain compassionate sympathy attaches to the potential child growing inside its mother, this sympathy increasing as the fetus becomes more human in form. Many regard its

subsequent destruction as being morally equivalent to murder, and as depriving the child of its inalienable right to live.¹⁵ In addition, it is said by some commentators that broadening the abortion laws would encourage and give free license to illicit sexual intercourse, while others look upon the mere discussion of abortion as obscene.¹⁵ American courts by and large seem to regard interference with propagation as a moral question involving a crime against nature.¹⁶

Religious background

Although induced abortion has been practiced by man for thousands of years, unequivocal moral and legal antipathy to abortion originated with the Hebrews, who were exhorted by God "to be fruitful and multiply."¹⁷ The early Hebraic law underwent a gradual change until the renowned Spanish rabbi, Maimonides, provided, in his comprehensive code-book of Jewish law in 1168 A.D., for therapeutic abortion under the heading of self-defense.¹⁸ When a woman's life was endangered by pregnancy, according to Maimonides, the fetus might be destroyed just as an attacker could justifiably be killed in self-defense. Although a current, authoritative "Jewish view" on therapeutic abortion would be difficult if not impossible to ascertain, there being no central religious authority for the Jews throughout the world, it is submitted that most contemporary Jewish Talmudic scholars do not consider the present law too liberal, and, by and large, probably would not strongly oppose a cautious broadening of the legal exception to the abortion statute.¹⁹

Protestantism, for the most part, is not opposed to the present exception to the prohibitory law, most Protestant authority holding that termination of pregnancy is not a problem for the church but should be handled by the physician, the individual patient and her clergyman, with primary consideration being given the mother.²⁰

Catholicism, on the other hand, provides that any direct attack on the fetus is murder,²⁰ this attitude having been taken over unmodified by Christianity from early Judaism.²¹ The Catholic physician has both the mother and the child as patients, and each has an equal right to live; he must attempt to save them both, and cannot choose between saving one or the other or of killing one to save the other; neither the physician nor the mother has the right to make such a choice.²⁰ Furthermore, to allow therapeutic abortion in some cases might encourage laxity, and it is better to have a few deaths from not inducing abortion than to have thousands of lives intentionally destroyed in the womb.²⁰ An evil action directly performed, it is held, is never lawful even though done to

produce a good result, and it is also sinful to administer otherwise innocent medical treatment with the intention that miscarriage result. The double effect theory provides, however, that if termination of pregnancy is merely "permitted to follow" from some absolutely necessary (medically) innocent act, the effect of which is in itself good, then that original act is not sinful. Examples of the application of this theory would be the surgical removal of a pregnant uterus for malignant ovarian tumor or an operation to control hemorrhage during pregnancy. In such cases the physician would intend to remove the cancer or to control the hemorrhage, and the indirect death of the fetus would only be "permitted." It should be noted, however, that in practice the double effect theory is rarely applied.²²

OBJECT OF THE LAW IS TO PROTECT THE MOTHER

It is to be noted that although the historical objective of the law was to protect the unborn child in the womb,¹⁵ modern interpretation clearly gives just as much if not more consideration to the health and safety of the mother. This is indicated by statute and case law in most jurisdictions in the United States.¹³ Initially, the basic exception to the prohibitory law places preservation of the mother's life over that of the fetus.²³ Secondly, not only is the woman-abortee almost never prosecuted,²⁴ but the law allows her immunity from prosecution as an accomplice when her testimony is needed to convict the abortionist.²⁵ In addition, an attempted abortion is sufficient to fall within the substantive felony statute: miscarriage need not even result.²⁶ Furthermore, it is not even an element of the prosecution's case that the woman was in fact pregnant; it is enough that the abortionist believed her to be pregnant and performed an act upon her with the intention of terminating the pregnancy.²⁷ Thus, it is clear that the primary goal of the law today is to prevent death or injury to the mother. One might then ask: Is society in fact protecting the mother's welfare by maintaining stringent laws which drive her to illegal abortion? Is there not a lesson to be learned from the days of prohibition, when the indirect evils of the law far exceeded the evil at which the law was directed?

A fundamental requirement of reform is modification of the present unenforceable laws. Criminal abortion is undoubtedly stimulated by the pressure of these stringent laws, and also by having them loosely enforced. The needs of society have molded the law of abortion, through jurisprudential evolution, so that it tends to protect the health and safety of the mother; yet the severity of this law at the same time drives the very object of its protection

into the hands of the unskilled abortionist. Thus, maintaining statutes which do not receive public sanction and observance is detrimental to society, and further the weight of public opinion most probably favors a cautious relaxation of the present abortion laws. As has been seen in the Scandinavian countries, however, liberalizing the law will not completely eliminate illegal abortion as long as there are any restrictions at all, for no legislative decree will ever prevent unwanted pregnancies in women who cannot qualify for lawful abortion, yet are determined to abort. But this is certainly no reason for abandoning all attempts to prevent widespread termination of pregnancy by unskilled hands.

Criminal law cannot undertake to draw the line where religion or morals would draw it.²⁸ A substantial body of medical judgment and public opinion favors cautious relaxation of the law; and believes it is wrong to impose criminal punishment upon decent people in the name of morality.

Law inadequate for physicians

Qualified physicians, particularly obstetricians and gynecologists, cannot operate honestly within the framework of current abortion laws. The legal threat of prosecution pursuant to these laws hangs over their heads when in reality the community has no intention of punishing medical practitioners acting in good faith. The present statutory standard does not adequately answer the questions of physicians who decide that induced abortion is necessary for a patient. Hence, they are often uncertain about the consequences of terminating pregnancy. It is submitted that the law be brought into closer conformity with public need and the practices of reputable members of the medical profession; and, that the statute clearly set out what constitutes lawful therapeutic abortion, in order that physicians and surgeons have a good base for sound medical judgment.

SUGGESTED INDICATIONS FOR THERAPEUTIC ABORTION

The following legal guideposts for the medical profession are advocated by the authors and were concurred in by the 1960 Los Angeles County Grand Jury in its resolution to the California Legislature:

1. *Medical reasons*—Where termination of the pregnancy is necessary to preserve either the life or health (mental or physical) of the mother.

2. *Eugenic reasons*—Mental deficiency of the parents or the probability that a congenital disease or malformation will be passed on to the child.

3. *Humanitarian reasons*—Pregnancy occurring as a result of rape, incest or moral irresponsibility

of the female (very young or mentally incompetent).

An abortion statute embodying these ideas, with controls against possible abuses, has been drafted and submitted (by Mr. Leavy) to the 1961 California Legislature for its consideration.

Effective, uniform and realistic abortion laws should go far in our efforts toward greatly reducing illegal abortions. We should not be deluded into believing that the problem can be eradicated; but certainly substantial inroads can be anticipated, particularly with the organized help of the medical profession, which until now has only given lukewarm support because of the lack of sufficient alternatives in legal channels.

Stringent controls should be provided which would tend to broaden the base of responsibility and reduce the probability of abuses.

1. *Medical and eugenic reasons*—Such controls to be incorporated into the various state laws may well follow the model recommended by Packer and Campell of the Stanford Law School.⁸ This, in essence, would allow performance of therapeutic abortions by licensed medical practitioners in licensed hospitals. To qualify, a hospital would be required to maintain a regularly-meeting therapeutic abortion committee composed of at least two obstetricians, one internist, one psychiatrist and a fifth person; only when a majority believed termination of pregnancy to be "medically advisable" would therapeutic abortion be permitted. The use of hospital review boards has gradually developed out of need to spread the responsibility and obtain objective decisions for terminating pregnancy. This system has proved successful, and by and large, the decisions of review boards have been found to be less lenient than those arrived at by other methods.²⁹ It is submitted that imposition by law of this method of control is a necessary concomitant to broadening the abortion law.

2. *Humanitarian reasons: Jurists to determine facts*—Where pregnancy results from rape or incest, or from moral irresponsibility in the very young, the feeble-minded or other incompetents, and there are no medical indications for therapeutic abortion, it is submitted that the question of terminating pregnancy under a statutory exception should not be placed before a hospital committee or other medical authorities, but instead properly rests with local legal authority. Such a decision must necessarily be based upon a finding of fact as to the good faith of the mother's claim of forcible rape, statutory rape or incest, and should lie with a juridical trier-of-fact rather than in the confines of sound medical judgment. A magistrate or judge of a criminal court, for instance, after

hearing the prosecution's prima facie case to determine if a defendant shall be held for trial on a sex offense, might be empowered by the legislature to decree, upon request of the pregnant victim, that she be allowed an abortion. Furthermore, in cases where the defendant is not yet apprehended, the pregnant victim should be entitled to prove the facts of the sex offense in a brief civil proceeding, in order to obtain the same relief.³⁰

PREVENTIVE MEASURES

Preventive measures are as important in dealing with criminal abortion as with any other medical problem. Suggested measures are:

1. *Consultation centers* similar to those in existence in Sweden where women with unwanted pregnancies may go for help. Social workers would be able to counsel women contemplating abortion. Most women contemplating abortion report a lack of anyone with whom these problems could be openly and honestly discussed. It is conceivable that with experienced counseling these women might ultimately find that they might wish to continue pregnancy to term. Other functions of such a center would include consideration of adoption, pointing out dangers of illegal abortion, and possibly aid to some clients in securing legal abortions and rendering whatever social service assistance that may be required at that period of stress.

2. *Research* should be stimulated and supported toward developing the "ideal" contraceptive—simple, acceptable and completely effective.

3. *Education of the public*—Sex instruction of children at levels understandable to them (and similarly for adults) is necessary to implement our goals. Such education must be thorough and continuous and include information on contraceptives, concepts of planned parenthood, therapeutic abortion, and criminal abortion with its possible attendant dangers.

It is worth stressing the importance of exposing the problem of criminal abortion, its extent, dangers and suggested remedies. It would have been impossible to make any strides in the fight against cancer, tuberculosis and venereal disease without bringing them into the open. Similarly, it is believed that our success in the campaign against criminal abortion will be directly proportional to the extent that the problem is aired. If the medical profession fails to assume the leadership in this campaign, it will be only a matter of time before an informed citizenry will cry out and demand the necessary changes in law. How many women must we allow to endure needless suffering and death in that precious interval of time?

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CASE REPORTS

Acute Appendicitis with Radiopaque Appendiceal Lithiasis in a Child

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THE INTERPRETATION of acute abdominal pain in childhood is always challenging. Since suspicion of acute appendicitis is probably the commonest reason for laparotomy in children, the following case is presented as an oddity in which an x-ray film of the abdomen showed a radiopaque intra-appendiceal coprolith in the right lower quadrant, an entity becoming more frequently recognized.

REPORT OF A CASE

A 12-year-old white boy was admitted to the hospital after about 12 hours of severe abdominal discomfort. At first diffuse, the pain was later centered in the right lower quadrant. Immediately before admission he had vomited. The oral temperature had risen to 100° F. Bowel movements had been normal. The patient had a history of nasal allergic disease and of many episodes of bronchitis. Twice he had had pneumonia. He had no idiosyncrasies as to food and was not particularly selective in his diet. His appetite had always been good. No previous history of gastrointestinal distress was elicited.

In the father's family there was strong history of allergic sensitivity, and history also of diabetes, heart disease and cancer. The patient's mother had had laparotomy as a child and her appendix had been removed at that time. Later, however, it was found that a right ureteral calculus had probably caused the symptoms that led to the operation.

When examined at the time of admission, the patient had oral temperature of 100.2° F. and the mucous membranes of the mouth and nose were dry. Lymph nodes in the cervical and inguinal areas were of a shotty firmness. Upon examination of the abdomen, guarding over the right lower rectus muscle was noted, but there was no involuntary spasm. Rebound tenderness was elicited at McBurney's



Figure 1.—Stone at right iliac crest and distended loop of small bowel on left.

point. Peritoneal irritation was demonstrated by referral of pain from left to right. There was no costovertebral angle tenderness. Digital pressure inside the rectum caused discomfort on the right side. No hernias or masses were discerned.

The hemoglobin content was 12.7 gm. per 100 cc. of blood, and the hematocrit was 41 per cent. Leukocytes numbered 16,300 per cu. mm.—94 per cent neutrophils, 5 per cent lymphocytes and 1 per cent monocytes. The urine was yellow, alkaline and negative for sugar. The specific gravity was 1.030. On microscopic examination an occasional pus cell was noted. In light of the history of calculus formation in the mother, an x-ray film of the abdomen was taken and a laminated calculus was seen in the medial portion of the right iliac crest, lateral to the normal site of a ureter. In addition there was a loop of small bowel distended with gas in the left lower quadrant. Roentgenograms were repeated to rule out a shadow from a garment or a button. The second examination showed that this density was not fixed, for it was lower in the upright projection. The study was interpreted as evidence of peritonitis with an opaque calculus outside the ureter and related either to the gallbladder or appendix (Figure 1).

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Submitted November 15, 1960.

At operation a moderate amount of thin cloudy-yellow fluid was noted and there were several distended loops of small bowel. The appendix was engorged, edematous and suppurative. A stone was impacted in its base. No perforation or gangrene was grossly evident. A culture of the peritoneal fluid showed no growth.

The pathologist reported the appendix 6.3 cm. long, distended and having an obstructing fecalith 1.4 cm. in diameter in the proximal one-third. The serosa was pink and granular. The lumen distal to the obstructing fecalith was filled with hemorrhagic and purulent material and there was erosion of the mucosa from pressure caused by the stone. The diagnosis was: "Acute hemorrhagic and ulcerative appendicitis with large fecalith formation." X-ray films of the specimen were made (Figures 2 and 3).

DISCUSSION

An analytical review of this entity was presented in 1951 by LaForet, Greenler and O'Brien.⁹ They reported the sixty-second case in the American literature and noted that there were another 50 or so in the foreign literature. An additional 102 cases form the basis of the conclusions in this report.* The first reported case was that of Weisflog¹⁵ in 1906.

It is doubtful whether an accurate estimate of the incidence of opaque stones in the appendix can ever be made, for it is not common practice to obtain x-ray studies of the abdomen in every case of suspected acute appendicitis. It has certainly become less rarely diagnosed as more patients with obscure abdominal pain are better studied. Deposition of radiopaque calcium salts in appendiceal fecaliths, which are not infrequent, requires a special set of chemical circumstances superimposed on a stage set by chronic inflammation. The incidence of true calculus, a calcified coprolith, has been estimated to be as rare as 1:2000³ in acute appendicitis, whereas calcium salts opacifying fecaliths per se may be much more common. Because of the time factors in the deposition of radiopaque salts and for the accretion of a calculus, most of the cases occur after the second decade of life. In the 31 cases in which age was mentioned in one review,⁹ there were only two girls, age 2 and 6 years, and two boys age 11 and 13 years.

Other reports[†] totaling 102 cases show a predominance of males (2:1) in all age groups. Less than half of the patients were below age 20. Among the children sex distribution was equal.

The site of the lesion is not of much diagnostic help, for the appendix may be almost anywhere in the abdomen—the pelvis, the lower right quadrant, the area of the lower pole of the kidney, adjacent to the gallbladder or on the left side, in the left lower



Figure 2.—X-ray film of specimen in *in situ* position.



Figure 3.—X-ray film of specimen to show laminated structure.

quadrant.^{2,6} Opaque calculi have been seen in all these positions. The number of stones is also of no diagnostic help, for although usually single, as many as 23 have been seen.¹² They may have odd shapes and various sizes ranging up to 1 x 2 x 4 cm.³

Although stones formed in the gallbladder in hemolytic diseases in children are largely of the pigmented type and are usually multiple, they occasionally calcify and must be considered in the differential diagnosis of opaque intra-abdominal calculi in this age group. Gallstone ileus is a consideration in older age groups.

The presence or absence of hematuria may not differentiate this condition from right ureteral calculi, for sometimes with a ureteral stone there is no blood in the urine and sometimes with an acute appendix (with or without a calculus) near or on the ureter, bleeding may be incited. Intravenous

*References 1, 2, 4, 5, 8, 10, 11, 13, 14.

†References 1, 2, 4, 8, 14.

pyelography may show stasis when the swollen appendix is near the ureter, and in some cases the lumen may be so reduced as to prevent retrograde passage of a catheter.⁹

Other opaque abdominal objects include calcified lymph nodes, calcifying ovarian carcinoma, teeth in a dermoid cyst of the ovary, calcifying uterine fibroids, phleboliths and enteroliths. Also, foreign bodies lodged in the appendix may appear to be impacted calculi, and some kinds of tablets in the digestive tract will cast a shadow. Calcifying hematoma of the abdominal wall or tuberculous enteritis are further possibilities.

When an intra-abdominal stone is observed unexpectedly in a routine x-ray examination of an asymptomatic patient, the most important consideration is whether to carry out a prophylactic appendectomy. Experience cited in the literature emphasizes that appendicitis accompanied by calculi is very virulent.* In more than half of the cases in which there were symptoms at the time of examination, perforation occurred, with a high incidence of intestinal obstruction, peritonitis and death. Because "the demonstration of appendiceal lithiasis affords the only criterion whereby an individual's susceptibility to acute appendicitis may be predetermined,"⁹ the removal of such a latent threat cannot be reasonably questioned even though there be no symptoms at the time.

SUMMARY

A case of radiopaque appendiceal lithiasis causing acute appendicitis in a child is reported.

The important facets of this oddity are analyzed and provide a basis for sound clinical management.

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Plastic Repair Following the Removal of Large Desmoid Tumors of the Abdominal Wall

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CLOSURE OF THE abdominal wall following excision of large desmoid tumors frequently presents a formidable problem, for radical resection must be done even though it entails removal of large portions of normal muscle and fascia. Although metastasis does not occur, tumors of this kind cause death by invasion of contiguous tissue. If the tumor invades the peritoneal cavity, sacrifice of the involved viscera is mandatory.⁴ To "shell out" a desmoid tumor would be considered inadequate by modern standards.³

The purpose of the present report is to encourage a more aggressive surgical approach in such cases by describing plastic closures of large defects of the abdominal wall following excision of desmoid tumors in two cases in which the only other method of closure would have necessitated the use of onlay grafts.

The procedure used was a variation of the Halsted modification of the Bloodgood operation for repairing large inguinal hernias.^{1,2} It may be of value to reintroduce the concept of using the anterior rectus fascia as a flap to cover defects in the abdominal wall. By so doing, even if the entire anterior rectus sheath and muscle on one side are sacrificed, it is possible to secure a strong closure without leaving a defect that would make a hernia inevitable.

REPORTS OF CASES

CASE 1. A 35-year-old woman had a carrot-shaped mass palpable in the abdomen to the left of the umbilicus and extending from a point 2 cm. below the costal margin to 7 cm. above the pubis (Figure 1a). The tumor became more prominent when the abdominal muscles were tensed, and it was thought to arise within the substance of the left rectus muscle. A preoperative diagnosis of a desmoid tumor was made.

Operative Findings and Procedure

A long vertical incision was made directly over the palpable mass. Upon further dissection, the

Submitted February 20, 1961.

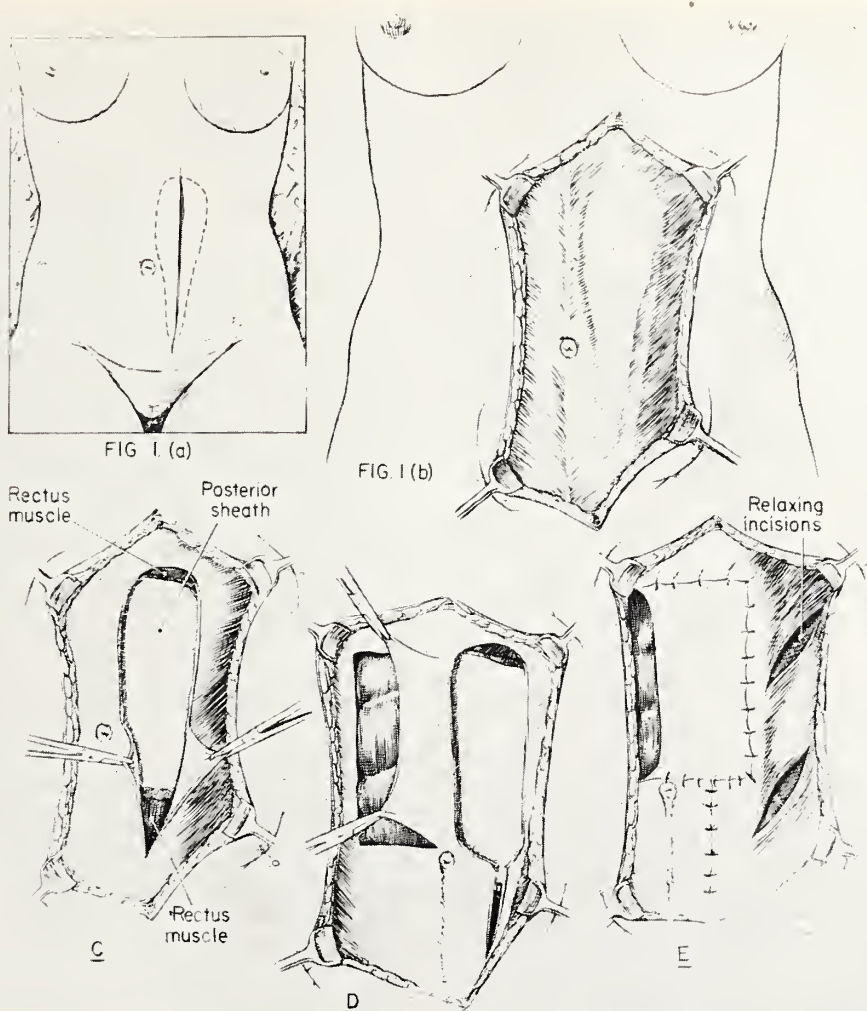


Figure 1.—(a) Incision and underlying tumor; (b) C, D, E, Excision of tumor and closure of defect in abdominal wall with contralateral flap of rectus sheath.

tumor was observed to be invasive, replacing almost all the left rectus muscle. The upper one-half of the anterior rectus sheath was incorporated in the tumor process. Except for the lower 5 cm., the entire left rectus muscle was resected, leaving the anterior fascia attached to the specimen at the upper portion. The resulting 12 x 6 cm. defect in the fascia was closed by the Halsted maneuver. The subcutaneous tissue overlying the upper one-half of the right anterior rectus sheath was undermined and the fascia was incised at its lateral border. This flap, still attached at the linea alba, was reflected medially and sutured to the left lateral abdominal musculature where the musculature joined at the semilunar line. Tension was taken off this suture line by relaxing incisions placed further laterally in the external oblique muscle. The steps in the operation are shown in Figure 1. The pathological diagnosis was: desmoid tumor of the rectus muscle.

Recovery was uneventful. For six months the patient had some difficulty when rising to a sitting position from the recumbent position, but thereafter the abdominal musculature was as strong as before. No evidence of a hernia or recurrence of tumor developed in the next two years.

CASE 2. A 26-year-old woman had a firm mass in the abdomen, apparently within the left rectus muscle and extending from the costal margin to the umbilicus. The preoperative diagnosis was desmoid tumor.

All of the left rectus muscle and anterior sheath superior to the umbilicus was excised and closure was carried out in a manner similar to that employed in Case 1. The pathological diagnosis was: Desmoid tumor of left rectus muscle.

A wound hematoma was evacuated on the seventh postoperative day, following which the patient made

an uneventful recovery. At no time was weakness of the abdominal wall demonstrated, and no recurrence or hernia appeared in a period of four years.

DISCUSSION

The surgical procedure described in these cases leaves a portion of the abdominal wall supported by only the rectus muscle on one side and only anterior rectus sheath on the other. I have successfully repaired huge incisional hernias by the same method without resorting to the foreign body prostheses that are now in vogue. In view of the infection and recurrence rate of incisional hernias repaired with metal, cloth, or plastic grafts,^{5,6} it would appear that the surgical procedure herein described should have wider application.

SUMMARY

Large defects of the abdominal wall, created by resection of desmoid tumors were repaired by a hinged flap of anterior rectus sheath from the

opposite side. The rectus muscle alone and the anterior sheath alone have provided a strong abdominal wall without herniation. The procedure was merely a variation of Halsted's modification of the Bloodgood operation for repair of large inguinal hernias.

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Convulsions and Papilledema in a Child With Idiopathic Hypoparathyroidism

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IDIOPATHIC HYPOPARATHYROIDISM often is first manifest by neurologic disturbances even though metabolic derangements form the bases for the typical signs and symptoms. Clinically, most of the symptoms of hypoparathyroidism are caused by a deficiency of calcium ions in the cellular environment with accentuated neuromuscular excitability, including convulsions, tetany, tetanic equivalents, muscle cramps, dysarthria, laryngeal spasm or stridor. In untreated patients with long standing disease, cataracts, papilledema and dental abnormalities occur in addition to psychosis and mental retardation. Thus, emphasis must be placed on early diagnosis and institution of treatment.

REPORT OF A CASE

The patient was referred to the U.C.L.A. Pediatric Clinic in March, 1959, at 3 years of age. He had been in good health and had had normal birth, neonatal course and subsequent growth and development. Dragging of the right foot began at 16 months and was followed by progressive bilateral ataxia of the lower extremities. Seizures of increasing severity

and frequency occurred at 2½ years of age and ataxia became more severe, with involvement of the right upper extremity. One month before admission to the clinic, a pneumoencephalogram and results of spinal fluid examination at another hospital were reported as normal. An electroencephalogram showed a generalized hypersynchronous pattern. Anticonvulsant therapy had been given without improvement. In June, 1959, blurring of the optic discs developed.

Upon physical examination on admission to the hospital the patient appeared to be heavily sedated, and spasticity of all extremities and persistent positioning of the right hand were noted.

Diagnoses included a diffuse sclerosis with cerebellar degeneration, papillitis and cerebromacular degeneration. Results of examination of the blood and urine were within normal limits. Roentgenograms of the skull and chest were interpreted as normal but conditions consistent with periodic arrest of growth were observed in studies of the long bones. Pneumoencephalogram and ventriculogram studies were normal. No abnormality was noted on cerebrospinal fluid examination. Three electroencephalograms were severely abnormal, showing hypersynchronous diffuse slow wave activity. One normal tracing was obtained before the patient was discharged. Results of other laboratory examinations are listed in Table 1.

Seizures, ataxia and papilledema gradually disappeared but two months after the patient was discharged, incoordination of the hands and hyperactivity recurred. Then, after another month, mild blurring of the optic discs developed again. An

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Submitted April 24, 1961.

TABLE 1.—Results of Blood, Spinal Fluid, and Urine Examinations in Hospital

Test	Periods in Hospital			
	June 11 to July 14, 1959	November 6 to 25, 1959		
		Date of Test		
		November 6	Other	November 25
BLOOD:				
Calcium, total (mg./100 cc.)		6.0		8.6
Phosphorus (mg./100 cc.)		8.6		8.1
Protein, total (gm./100 cc.)		7.1		6.5
Albumin/globulin (gm./100 cc.)			4.3/2.8	
Alkaline phosphatase (King-Armstrong units)			12.6	
Acid phosphatase (King-Armstrong units)			5.0	
Creatinine (mg./100 cc.)			0.7-0.8	
Blood urea nitrogen (mg./100 cc.)			9.3	
Carbon dioxide content (mM./L.)	8.2	17.4		
Sodium (mEq./L.)	142.3	133.1		
Chloride (mEq./L.)	97.0	94.9		
Potassium (mEq./L.)	4.32	3.4		
Magnesium (mg./100 cc.)			1.4	
Protein bound iodine (mcg./100 cc.)			7.0	
URINE:				
17-ketosteroids (mg./24 hours)			1.9	
17-hydroxycorticoids (mg./24 hours)			4.2	
Lead (mg./L.) (24 hrs.)	0.01			
Calcium (mg./24 hours)		108.0		
Phosphorus (mg./24 hours)		270.0		
Protein (gm./24 hours)		0.1		
SPINAL FLUID:				
Pressure (mm. water)	108 opening	Not measured		
Protein (mg./100 cc.)	24		31.6	
Cells (mononuclear)	3		4	
Colloidal gold	Negative			
Culture for bacteria and torula	Negative			
Sugar (mg./100 cc.)	79		60	
Chloride (mEq./L.)	116.2			
Calcium (mg./100 cc.)				4.8
Phosphorus (mg./100 cc.)				1.9

electroencephalogram one month after discharge was normal.

In November, 1959, at 3 years and 8 months, the patient was readmitted to the hospital because of status epilepticus, diarrhea for two weeks and abdominal pain for three days.

On admission the body temperature was 37.7° C., respirations 22 per minute, pulse rate 96 and blood pressure 98/64 mm. of mercury. The patient was unresponsive and hypotonia and hyporeflexia were noted. The pupils were dilated and reacted slowly to light. Severe blurring of optic disc margins was present. Seizures, characterized by stiffening of the entire body with elevation and extension of the right leg, were observed. Chvostek's sign was negative; Trousseau's sign was positive.

Results of blood, urine and spinal fluid examinations are listed in Table 1. The urine Sulkowitch reaction was zero. The parathyroid activity index ratio was 0.974 (normal 0.5 to 0.75) and the result of an Ellsworth-Howard parathormone test was positive. An electrocardiogram showed an increased QT interval. An electroencephalogram was severely abnormal, with high potential slow waves over the posterior hemispheres.

Therapy in the hospital included administration of dihydrotachysterol, calcium preparations, vitamin D and aluminum hydroxide. The seizures and tetany disappeared with resumption of normal gait one

week after therapy. Speech, which had been decidedly slurred, gradually improved. Psychological testing indicated a mental age of 2 3/12 years as compared with the chronological age of 3 9/12 years. On discharge from the hospital, the serum total calcium was 8.6 mg. per 100 cc. and phosphorus 8.1 mg. per 100 cc. Two months after discharge, an electroencephalogram was normal.

The patient was thereafter observed from time to time in the clinic and several adjustments were made in the prescription of drugs. The papilledema disappeared one month after the patient entered the hospital and there was no return of neurologic symptoms. One year after discharge from the hospital the serum total calcium was 9.7 mg. and the serum phosphorus 6 mg. per 100 cc. Psychological testing at the age of 4 4/12 years indicated a mental age of 2 11/12 years.

DISCUSSION

Thirteen cases of papilledema associated with idiopathic hypoparathyroidism and 22 cases following thyroidectomy have been reported in the literature. Seven of the thirteen patients with idiopathic hypoparathyroidism were children.

Neurologic complications of hypoparathyroidism include tetany, tetanic equivalents, convulsions, psychosis, mental retardation, basal ganglia calcifica-

tions, ataxia, tremor and choreiform movements, headache and sphincter disturbances. Electroencephalographic abnormalities have also been reported.

Steinberg and Waldron⁸ observed that tetany occurred in 73 per cent of the reported cases, tetanic equivalents in 10 per cent and convulsions in 52 per cent. Chvostek's or Trousseau's sign was evoked in all cases. The incidence of mental retardation in parathyroid insufficiency is about 7 per cent. Psychosis occurred in about 4 per cent of the reported cases and psychological changes usually were in the form of delusions, hallucinations, confusion and excitation or depression.

Pseudohypoparathyroidism may also be complicated by tetany, convulsions, mental retardation and calcium deposits in the basal ganglia. Six patients with pseudohypoparathyroidism and papilledema have been reported.

There is little doubt that "blurring of the discs" can occur in hypoparathyroidism without a space-occupying lesion in the cranium. Most investigators regard this as true papilledema due to increased intracranial pressure secondary to cerebral edema. There are, however, reported cases in which the spinal fluid pressure has not been elevated or cerebral edema present. Steinberg and Waldron found elevated spinal fluid pressure in only three of seven patients with papilledema. In the present case also there was normal spinal fluid and ventricular pressure without cerebral edema.

The pathogenesis of the edema that sometimes occurs still remains obscure. Most investigators have sought an explanation by considering the evidence that calcium deprivation had a hydrophilic effect on tissues and that acute tetany in animals and in the newborn was associated with an increase in water content of the brain.^{1,3,7}

Comparison of spinal fluid calcium with serum calcium shows that the spinal fluid calcium is within the normal range in hypoparathyroidism with papilledema although the total and ionic serum calcium is reduced. This observation has led to the belief that differences in concentration between ionic calcium on the two sides of the blood brain barrier might contribute to fluid accumulation in the brain.² However, in those cases in which both the spinal fluid and serum total calcium were simultaneously determined, differences in concentration between the two ranged from 0.7 to 2.5 mg. per 100 cc.^{2,4,5,6,9} The patient in the case here reported also had only a 0.8 mg. per 100 cc. difference between the spinal fluid and serum total calcium, although this was one week after treatment. As Grant⁵ pointed out, it appears unlikely that such small differences would be a sufficient cause for edema.

In view of the observation that increased spinal fluid pressure, cerebral edema and significant differences in concentration between calcium on the two sides of the blood brain barrier are not always present in papilledema, other factors should be investigated. Further attention should be directed toward such factors as: (1) Serum hydrogen ion concentration, (2) serum potassium levels, (3) the influence of parathyroid hormone, vitamin D and serum phosphorus, and (4) the equilibrium between blood calcium and spinal fluid calcium, since the spinal fluid calcium may no longer represent the diffusible portion of the serum calcium when the blood constituents are undergoing pronounced fluctuations.

SUMMARY

Idiopathic hypoparathyroidism is a good example of a metabolic disease which can first manifest its derangements in the form of neurologic signs and symptoms. The child presented in this report had been treated for almost two years as having idiopathic epilepsy, cerebral palsy, cerebellar degeneration and benign intracranial hypertension before the basic metabolic cause of his problem was determined. This case demonstrates that metabolic diseases may be overlooked in neurologic disturbances.

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EDITORIAL

Kerr-Mills or King-Anderson?

ONE OF THE bitterly disputed bills now before the Congress is the King-Anderson bill, a proposal to supply hospital and nursing home services to all beneficiaries of the Social Security System. It would be financed by adding another fractional percentage on the Social Security taxes of both employers and employees.

The medical profession is opposing this proposal, on grounds which seem more than adequate to thinking physicians but which have been brushed aside by the proponents of the Social Security approach to the provision of services for the elderly.

Out of the debate on this measure, several curiously interesting angles have developed, including extreme diversionary tactics by labor's representatives and dogged platform-hugging by the adherents to President Kennedy's legislative program. The members of Congress must, in all clarity and honesty, see the direction in which the King-Anderson bill would lead the country, namely, one step further down the road to a socialistic state. In loyalty to their leader, however, many members of Congress seem willing to follow blindly, in full faith and mindless of the major shift in Social Security philosophy which this measure would represent.

In the last Congress, the Kerr-Mills bill, also designed to provide hospital and nursing home services—plus medical services—to the needy aged was adopted and signed into law.

With such a law already on the books, the public is confused about what the fighting is all about. It would be surprising if such confusion did not exist. What the public has not yet grasped is the diametrical opposition of the two methods designed to accomplish essentially the same end. Where two such approaches are in evidence, the public is likely to follow the proposals made by the incumbent

President. It is he who ran on a platform which promised much. It is he who introduces the legislation to carry out the platform pledges. It is he whose office commands the time and space of news media. Finally, it is he who dictates what information is passed out to all news outlets, whether they be newspapers, magazines, radio or television.

To oversimplify these opposing measures, the King-Anderson bill would add Social Security taxes on both employers and employees and would utilize these funds to provide both hospital and nursing home services for those drawing Social Security benefits. The taxes would be compulsory; the use of the services would be optional for those who chose to provide their own needed services from their own resources.

Again oversimplifying, the Kerr-Mills bill provides federal moneys out of general taxation, these funds to be matched by state and local government and the total to be used, at the discretion of the states, to provide medical, hospital and nursing home services for those who are in need of them and cannot meet the cost with their own sources of funds.

The Kerr-Mills bill, already on federal statute books and, state by state, being implemented at the state and local level, retains home rule, state's rights and the objective evaluation of need before benefits are granted.

King-Anderson, on the other hand, would centralize all authority in the federal government and would disregard the matter of need.

While the president, his administration and his majority in Congress have full access to all news media and hence the opportunity to color their releases in favor of their own legislative proposal, they have omitted the one key fact about the King-Anderson bill which should be of utmost importance to every citizen and every taxpayer.

This fact is: the King-Anderson bill would establish the principle that the Social Security mechanism may provide services rather than cash benefits. With hospital and nursing home services as the entering wedge, what is to prevent this administration from next providing housing, groceries, clothing or any other essential of the elderly? Carried to the extreme, such a program could effectively transfer the entire load of the elderly from communities, counties and states to the federal government.

Some proponents of the King-Anderson program have admitted that "this is just the beginning." They hold that physicians' services are omitted from the initiation of such a program of services and that physicians therefore have no moral right to oppose the bill, as it does not directly concern them. This attitude overlooks the fact that a considerable number of physicians—radiologists, pathologists, and anesthesiologists, as well as all interns and residents—render professional services chiefly in hospitals. These services *are* in the purview of the bill, and hence are matters of direct concern. Moreover, one look at the progression of the whole Social Security program in its quarter-century of existence should convince any fair-minded person that here is a program which consistently expands its authority, its control over the lives and activities of its beneficiaries and its tax bite on employers and employees.

The same fair-minded person, who has the inalienable right to express opposition to any proposal before the Congress, knows that social legislation, once enacted, is just about impossible to reverse. A system of socialized government goes in one direction only, upward and upward.

Today we see a situation in which the medical profession is standing as the only really outspoken group in opposition to the further socialization of our entire system of government. There are allies, to be sure, but the medical profession is the one group which stands up to be counted—and to accept the brickbats thrown by proponents of further socialization.

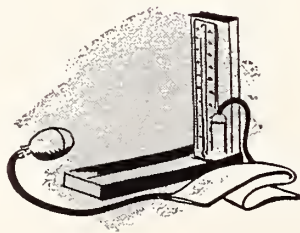
The most vocal of these proponents is organized labor. To labor, additional socialization is a fringe benefit which is good for the worker. Government control is assumed and labor is willing to make this assumption as a means to gain an end. Of course, when government wants to step in on a problem relating to labor practices, that is another matter.

In the King-Anderson debate, certain elements of labor have not only backed the administration's proposal but have set themselves up as the chief hecklers of the medical profession. Their role to date has been to forget the issue and to concentrate on calumny and discrediting of the medical profession. Public debates and Congressional appearances of some of labor's top brass have consistently shown that they do not wish to discuss the merits or faults of the King-Anderson bill but to use the opportunity to villify the very physicians who have helped create the problems of the elderly by providing health services which keep people alive and add to the inventory of the aged. This seems paradoxical to many but not to those who know that many elements of labor regularly and vigorously push for legislation which favors their own members, regardless of the effects of such legislation on others.

Present indications are that the King-Anderson bill will not pass, may not even come to a vote, in this session of the present Congress. Next year—that's another matter.

Meanwhile, physicians will do well to study the existing struggle, where the opponents line up on one side as those in favor of centralized and socialized governmental activity and on the other in favor of man as an individual, with responsibilities and prerogatives of his own.

If the bars should be dropped and the social planners be given encouragement to regulate our lives, our health services and our taxes, there are no limits in sight short of the ultimate socialistic state, such as our own government now opposes throughout the world. This is no time for equivocation. This is the time to stand on principles and to carry the fight against King-Anderson legislation until this kind of proposal is soundly defeated.



The President's Page



Health Security, American Style

SHOW ME A MAN who can't work or help himself and I will show you an unhappy man. Show me an ally who is given free money without responsibility and I will show you a turncoat. Happiness is not a destination . . . it is a journey; one of challenges met, obstacles overcome, victories gained. Therein lies the key to vitality, to new frontiers, to America and all it stands for . . . the dignity, value and happiness of individual effort and achievement . . . at any age.

And these truisms apply to government as it serves citizens. To the extent that government fosters opportunity, it provides a meaning to life; and to the degree that it permits rewards for individual effort, it creates contentment. The contrary patterns of rewards without achievement; support without effort, no matter how subtly given, ultimately destroy the mainspring of living.

True, in a civilized society the individual must have some security from catastrophe, and the older the person the more vulnerable some may be. But the rules for providing this security for health, housing and food must be such as not to violate the basic rules for contentment that apply for all people.

So it is with medicine's belief as regards methods for providing the security for the health needs of all citizens—even those made "aged" at 65 by legislative fiat. Government largesse (and for that matter why not include food, clothing, shelter?) could be distributed as a "right" of a citizen for not being dead . . . to be given to all, rich and poor, hungry or surfeited, robed or threadbare.

However, with the challenge of communism, medicine does not believe that America dares destroy, by wanton dispersals without need, the basic moral fiber that has made her great. Also, where need does exist, the resources to help it must not be dissipated by profligate and stultifying gratuities to those who have happily experienced the exhilarating challenge of successful, personally achieved security. Therein

lies the heart of the differences between the two philosophies for providing government health care to citizens.

The California Legislature, the Administration and your C.M.A. have been national leaders in implementing a logical, generous and responsible bill designed under the Kerr-Mills Law. It does meet the honest needs of the older citizens, it will stimulate and permit the entire health team to function at its best. Within its enlightened provisions, wherein "the poorhouse" and "bankruptcy" are no longer threats, an exciting new concept in government participation has been initiated, one that your medical society molded, nurtured and supported.

How frequently one hears doctors cry: "Isn't the medical profession ever *for* anything? Why doesn't Medicine have a plan, come forward with something new that doctors, their friends, rational citizens and responsible legislators can all get behind!" In an inflationary, dollar devaluating economy, some need does exist for those with modest resources, and a method for help must arrive before financial collapse!

Yes, your medical society—county, state and national—has worked hard, united and with public dedication, to develop a positive program to meet the need, to acknowledge wherein government should help, and to do so in a framework that will permit medicine and the health sciences to work at their best quality and dedication.

It was with much pride the California Medicine's leadership in the nation was presented before an attentive, respectful and very knowledgeable Ways and Means Committee. So do not, you yourself, cast aside this enlightened law for health security, American style, until you have seen it in action, read and discussed it, and can know personally its many virtues.

Harold B. Smith M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 471st Meeting of the Council, Hilton Inn, San Francisco Airport, July 15, 1961.

The meeting was called to order by Chairman Sherman at 10 a.m. on Saturday, July 15, 1961, in the Hilton Inn, San Francisco International Airport.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Editor Wilbur, Secretary Hosmer and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Anderson and Teall. Absent for cause, Councilor Rogers. A quorum present and acting.

Present by invitation were Messrs. Thomas, Clancy, Whelan, Klutch, Tobitt, Edwards and Bowman, Mrs. Griffith and Doctor Batchelder of C.M.A. staff; Mr. Hassard of legal counsel; Eugene Salisbury and John Fraser of the Public Health League of California; county society executives Scheuber of Alameda-Contra Costa, Lingerfelt of Fresno, Geisert of Kern, Dalbec of Los Angeles, Grove of Monterey, Somerville of Napa, Dochterman of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Nieck of San Francisco, Funk of Solano, Brown of Sonoma, and Rideout of Butte-Glenn; Messrs. Paolini, Webb, Heller, Nyren, Lyon, Wahlberg and Dr. T. Eric Reynolds of California Physicians' Service; Dr. H. C. Pulley of the State Department of Public Health; Mrs. Eunice Evans, deputy director of the State Department of Social Welfare, Dr. Stafford Warren, dean of the U.C.L.A. medical school; Dr. Gerald Shaw; and Mr. Richard Phillio of the American Medical Association.

1. Membership:

(a) A report of membership as of July 15, 1961, was presented and ordered filed.

(b) On motion duly made and seconded, 258 delinquent members who have been reported since the last previous meeting were voted reinstatement.

(c) On motion duly made and seconded in each instance, ten applicants were voted Associate Membership. These were: Benjamin Henry Barbour, Sterling William Morgan, Los Angeles County; John Carolan, Elizabeth M. Cuthbertson, Richard B. Paddock, Leonard N. Swanson, San Francisco County; James A. Peal, San Joaquin County; John Finocchiaro, Buren William Krahling, San Luis Obispo County; Gizella W. Shannon, Tulare County.

(d) On motion duly made and seconded in each instance, eight members were voted Retired Membership. These were: Horace A. Hall, Orange County; William M. Miller, Placer-Nevada County; Fred C. Miller, San Bernardino County; Mary C. Jaquette, Clarence E. Rees, San Diego County; Theodore L. Althausen, San Francisco County; Hubert O. Swartout, San Luis Obispo County; E. F. Roth, Santa Clara County.

(e) On motion duly made and seconded in each instance, 14 members were voted a reduction of dues because of illness or postgraduate study.

WARREN L. BOSTICK, M.D.	President
OMER W. WHEELER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
SAMUEL R. SHERMAN, M.D. . . .	Chairman of the Council
RALPH C. TEALL, M.D.	Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D.	Secretary
DWIGHT L. WILBUR, M.D.	Editor
HOWARD HASSARD	Executive Director
JOHN HUNTON	Executive Secretary
General Office, 693 Sutter Street, San Francisco 2 • PProspect 6-9400	
ED CLANCY	Director of Public Relations

Southern California Office:

2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341

2. *Approval of Minutes:*

On motion duly made and seconded, the minutes of the 468th Council meeting held April 28 to May 3, 1961, the 469th Council meeting held May 3, 1961, and the 470th Council meeting held May 27, 1961, were approved.

3. *Reports of Affiliated Organizations and Invited Guests:*

(a) Dr. Stafford Warren, dean of U.C.L.A. Medical School, reviewed for the Council the various activities of the Educational Advisory Committee concerning an application by a Los Angeles medical college for approval as an accredited medical school.

(b) *Department of Public Health*—Dr. Pulley informed the Council about the legislative changes recently enacted relating to the monitoring of radiation by the State Department of Public Health. Certain responsibilities previously assumed by the Atomic Energy Commission have been transferred to the Department of Public Health. The legislature enacted a law requiring polio immunization of all minors and adults who enroll in any school. The Department is studying ways in which this law may be implemented and a report will be made to the Council later.

(c) *Department of Social Welfare*—Mrs. Eunice Evans, deputy director of the State Department of Social Welfare, reported that 68 different bills were passed by the legislature which relate to the work of the Department of Social Welfare. Many of these bills concern medical care. S.B. 325 provides chronic care for the needy aged not on public assistance. The Department will ask the help of the C.M.A. and others in drafting necessary standards to properly administer this bill.

Mrs. Evans reported that the legislature relaxed the relative responsibility law and liberalized the definition of disability. Mrs. Evans also reported the Department's concern about advertising ancillary services that are taking advantage of the welfare program and ways to control certain abuses of the medical care component of the public assistance program. The Department contemplates calling together a statewide committee to study and make recommendations about this latter program.

(d) *California Physicians' Service*—Dr. T. Eric Reynolds, president of C.P.S., reported that progress is being made in upgrading C.P.S. membership to better programs. The number of participating physicians has increased, as has the volume of claims.

Dr. Reynolds told the Council that C.P.S. in conjunction with the State Department of Public Health, the Farm Bureau, C.M.A. Committee on State Medical Services, and other interested groups, is studying a proposal for a prepaid medical care program

for seasonal farm workers and their families. He advised that the ultimate solution of this problem will probably call for new approaches.

(e) *C.M.A. Delegates to the A.M.A. House of Delegates*—Dr. Dwight L. Wilbur, chairman of the C.M.A. delegation to the A.M.A. House of Delegates, reviewed the recent meeting of the A.M.A. House of Delegates. He called attention particularly to the helpful action of A.M.A. which relates directly to our contract with the California Osteopathic Association. He commended the effective work of the members of the delegation.

4. *Reports of Officers:*

(a) President Bostick also commented on the effective work of the C.M.A. delegation to the A.M.A. House of Delegates, and the fact that it was most democratically led by Dr. Wilbur. He advised the Council that Dr. Wilbur was elected to membership on the A.M.A. Council on Medical Education and Hospitals.

Dr. Bostick reported that the Emergency Action Committee recommended that *Newsletter* be expanded to the extent of carrying an additional page to report in greater detail concerning the actions of the C.M.A. Council and their discussions relative to problems confronting medicine. It was moved, seconded and approved that a Council page be added to the C.M.A. *Newsletter*.

Dr. Bostick informed the Council that he had requested an opportunity to testify before the Ways and Means Committee of the House of Representatives on the King-Anderson Bill, H.R. 4222.

(b) Report of President-Elect Wheeler advised the Council of the efforts that are being made by him in cooperation with the State Department of Public Health and county medical societies concerning medical care for seasonal agricultural workers and their families.

5. *Report of Council Committees:*

(a) *Committee on Committees*—Dr. Wheeler presented a list of recommendations for changes in commission and committee members, creation of new committees and actions to existing committees. On motion duly made and seconded, this list as appended to these minutes was approved.

(b) *Finance*—Chairman Tcall of the Finance Committee presented a tentative annual report for the fiscal year 1960-1961, ending June 30, 1961. The report of the committee was approved and the committee and its chairman commended.

Dr. Teall called to the attention of the Council a revised format for the financial report. The committee is seeking ways to make the financial report clearly reflect to the Finance Committee and the Council the things they need to know.

(c) *Speakers' Bureau*—Doctors Anderson and Teall reported that a tremendous amount of material has been gathered, coordinated and organized for the use of the Speakers' Bureau. The immediate need is for county society Speakers' Bureau programs to be organized in order to supplement the C.M.A. program. Dr. Anderson requested the members of the Council to stimulate their county societies to request that representatives of the Speakers' Bureau meet with the Executive Committee of each county medical society. Dr. Anderson made a like request of the executive secretaries of the county medical societies.

(d) *Bureau of Research and Planning*—Doctor Franklin Ham reported that the Bureau of Research and Planning has four principal studies which they are presently following:

1. A study of the composition of the membership of C.M.A.
2. A more accurate scale by which to judge medical care costs than the present Consumer Price Index relating to medical care costs.
3. Obtaining background material in order to develop recommendations concerning ways to judge and control the quality of medical care.
4. The development of a comprehensive prepaid medical care plan.

(e) *Francis E. West, M.D.*—Dr. James MacLaggan reported that Dr. Francis E. West was to be awarded the Papal decoration of Knight of St. Gregory on July 16. The Council directed the Secretary to forward a telegram to Dr. West, extending to him the congratulations and felicitations of the officers and Council members on the occasion of his being awarded a Papal decoration as Knight of St. Gregory.

6. *Reports of Commissions:*

(a) *Commission on Medical Services*—Dr. Harrington submitted a report of the Liaison Committee to Medicare and VA Hometown Care Programs in which a Letter of Agreement with the VA was recommended. After discussion, it was voted to reject the Committee report and to inform the VA that the proper agency in California for it to take up the subject matter of the proposed Letter of Agreement with, is California Physicians' Service.

(b) *Commission on Community Health Services:*

1. Dr. MacLaggan read to the Council a proposed letter to the Division of Industrial Safety of the State of California, concerning the establishment of standards relating to industrial noise hazards which had been recommended by the Committee on Occupational Health. On motion duly made and seconded, the Council approved this letter.

2. This committee also recommended that the Council urge California Medical schools to place more emphasis on the medical problems incident to industrial hazards. It was moved, seconded and approved that this recommendation be referred to the Commission on Medical Education.

3. This commission also recommended that the name of the Committee on Rural and Community Health be changed to the Committee on Rural Health. Matters relating to community health will be considered by the commission itself. This recommendation was moved, seconded and approved with instructions that appropriate By-Law change proposals be prepared for submission to the next meeting of the House of Delegates.

4. It was moved, seconded and approved that House of Delegates resolutions 23 and 35 dealing with fluoridation and air pollution be re-referred to the Commission on Public Agencies.

It was recommended that the proposal re determining the range of hourly pay rate afforded to part-time physicians in industry, should be referred to the Committee on Fees. On motion duly made and seconded, this recommendation was approved.

(c) *Commission on Public Policy:*

Committee on Legislation—Mr. Salisbury reported to the Council that they had each received a copy of Doctor Kilroy's written report concerning the legislative changes which had been enacted. The legislative matters referred to Interim Committee study which are of particular interest were noted as follows:

1. A proposal concerning professional corporations.
2. The proposed change in the commitment of the mentally ill.
3. The proposal for employment of physicians by district hospitals.
4. Various approaches concerning government control over voluntary health insurance.
5. The proposed consolidation of the Departments of Public Health, Mental Hygiene and Social Welfare.

Mr. Hassard suggested that a C.M.A. committee be designated to follow particularly the activities of the Interim Committee studying the proposed professional corporation. On motion duly made and seconded, the Commission on Professional Welfare was directed to follow this matter.

It was moved, seconded and approved that a letter of commendation be sent to Dr. Kilroy, Mr. Hassard, Ben Read, Gene Salisbury, John Fraser and Robert Huber, for the very effective legislative liaison work they performed during the recent session of the California State Legislature.

Committee on Public Relations—Dr. Todd reported that the Public Relations Committee chairman has proposed that a series of regional PR conferences be held. After discussion, it was moved, seconded and approved that this proposal be referred to the chairman of the Public Relations Committee and the ad hoc Committee for Annual Conference of County Society Officers with directions that the committee consider the advisability and feasibility of attaining the objectives sought by utilizing other scheduled meetings.

Mr. Clancy reported to the Council that the annual visits of the President and President-Elect to the various county societies are being arranged and planned.

Mr. Clancy also called to the attention of the Council the recent A.M.A. report concerning better disciplining of the profession by itself. He showed copies of recent newspaper reports regarding fraud and abuse of public medical care programs by physicians and others.

Mr. Tobitt reported to the Council the various activities concerning the TV series "Doctors at Work."

(d) *Commission on Public Agencies*—The written report of the Committee on Veterans' Affairs was received and approved. It concerned the veterans' home at Yountville, California.

7. *Unscheduled Items—New Business:*

(a) *A.M.A. Report "Tis Neither Black Nor White"*—There was extensive discussion of the problem relating to the medical profession policing and controlling abuses of the privilege of its members to practice medicine. It was moved, seconded and approved that the Committee on Committees consider this matter and either select an existing committee or recommend the appointment of a special committee to study and make a report to the Council concerning what might be done.

(b) *Time and Place of Next Council Meetings*—It was moved, seconded and approved that the Council should meet on August 19 and September 23 in Los Angeles, at a place to be designated later.

8. *Report of Staff and Legal Counsel:*

Mr. Hassard advised the Council that the Industrial Accident Commission has held two public hearings on the C.M.A. Petition for a revision in the Official Minimum Medical Fee Schedule. No word has yet been received concerning the action that may be taken by the Commission and it is anticipated that some time may elapse before a final decision is announced. The Council was advised that the Articles of Incorporation have been submitted to the California Secretary of State to establish a non-profit research and educational foundation.

Adjournment:

There being no further business to come before it, the meeting was adjourned on Saturday, July 15, 1961, at 4:45 p.m.

SAMUEL R. SHERMAN, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

RECOMMENDATIONS OF THE COMMITTEE ON COMMITTEES TO THE COUNCIL

July 15, 1961

1. **Committee on Mental Health:**

William L. Cover, San Bernardino, resigned.

The Committee on Committees recommends the appointment of Francis G. Mackey, Fullerton, to fill the unexpired term ending 1964.

2. **Committee on Public Relations:**

Purvis L. Martin, San Diego, resigned.

The Committee on Committees recommends the appointment of Robert T. Plumb, San Diego, to fill the unexpired term ending 1962.

3. **Liaison Committee to the California Hospital Association:**

The Council has authorized the expansion of this Committee so it can accelerate its inspection program.

The Committee on Committees recommends the appointment, for one-year terms, of the following:

William A. Newsom, San Francisco
James W. Martin, Sacramento
Edwin G. Clauson, Oakland
Wilfred J. Snodgrass, Santa Monica
Daniel W. Black, Hayward
John R. Heckman, Marysville
Reginald H. Smart, Los Angeles
Lucius L. Button, Santa Rosa
John T. Saidy, San Mateo
William L. Argo, Fresno
John C. Lungren, Long Beach

This group of physicians, with the existing three-man committee, will form three inspection teams of four men each.

4. **Advertising Committee:**

The Committee on Committees believes it would be prudent to maintain closer Council liaison with this committee and recommends that the secretary of the Association, Dr. Hosmer, be appointed an ex-officio member of this committee.

5. **Committee on Private Practice of Medicine by Medical School Faculty Members:**

Werner F. Hoyt, Mt. Shasta, resigned.

The Committee on Committees recommends that Herbert Moffitt, Jr., of San Francisco be appointed as chairman.

6. Committee on Adoptions:

The Committee on Committees recommends that Dr. Walter H. Beckh of San Francisco be added to this committee.

7. Ad Hoc Committee on Organization and Procedures:

The Committee on Committees recommends the appointment of the following:

Wilbur Bailey, Los Angeles
August J. Haschka, Jr., Pacific Palisades
Matthew N. Hosmer, San Francisco
Donald A. Charnock, Los Angeles
Francis E. West, San Diego
H. Milton Van Dyke, Long Beach
Roberta Fenlon, San Francisco

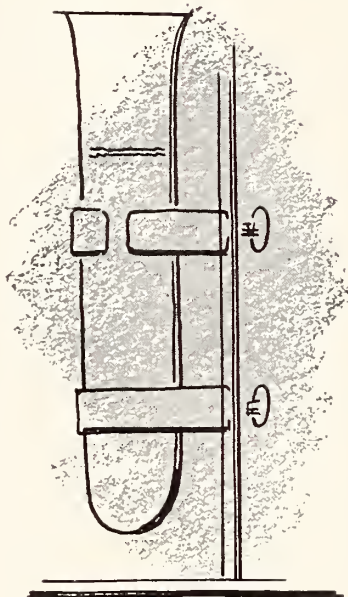
Donald D. Lum, Alameda
Charles E. Grayson, Sacramento
Walter H. Brignoli, St. Helena
Edward Liston, Palo Alto.

The Committee for Emergency Action and the Vice-Speaker of the House of Delegates shall be ex-officio members of this committee.

8. Annual Conference of County Society Officers Committee:

The Committee on Committees recommended the following:

John F. Murray
Albert G. Miller
Carl E. Anderson
John Morrison
Malcolm Todd (chairman).



CALIFORNIA MEDICAL ASSOCIATION

ANNUAL MEETING

Fairmont Hotel
SAN FRANCISCO

April 15-18, 1962

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than November 1, 1961.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 693 Sutter Street, San Francisco 2, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than November 1, 1961. (No exhibit shown in 1961, and no individual who had an exhibit at the 1961 session, will be eligible until 1963.)

Medical Motion Pictures

The Film Symposiums which attracted excellent attendance in 1961 will be continued in 1962.

Authors desiring to show films should send their applications to Motion Picture Division, C.M.A., 693 Sutter Street, San Francisco 2. All authors are urged to be present at the time of showing as there will be time allotted for discussion and questions from the audience after each film.

Deadline: December 1, 1961.

PLANNING MAKES PERFECT
AN EARLY START HELPS

SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY Jerome J. Sievers
4835 Van Nuys Boulevard, Sherman Oaks

ANESTHESIOLOGY Grant Fletcher
P. O. Box 569, Manterey

DERMATOLOGY AND SYPHILOLOGY . . . David R. Taylor
1237 R Street, Fresno 21

EAR, NOSE AND THROAT Henry L. Harris
3875 Wilshire Boulevard, Las Angeles 5

EYE Richard A. Westsmith
12 North El Camino Real, San Mateo

GENERAL PRACTICE A. Norton Donaldson
321 West Washington Avenue, Santa Ana

GENERAL SURGERY R. Bruce Henley
400 Twenty-Ninth Street, Oakland 9

INDUSTRIAL MEDICINE AND SURGERY . . Peter L. Hoffman
3533 West Pica Boulevard, Las Angeles 19

INTERNAL MEDICINE Glenn A. Pope
2600 Capital Avenue, Sacramento 16

OBSTETRICS AND GYNECOLOGY Kenneth F. Morgan, Jr.
2010 Wilshire Boulevard, Las Angeles 57

ORTHOPEDICS Albert H. Rodi
2010 Wilshire Boulevard, Las Angeles 57

PATHOLOGY AND BACTERIOLOGY Carl M. McCandless, Jr.
St. Joseph's Hospital, Buena Vista and Park Hill, San Francisco 17

PEDIATRICS R. Bruce Jessup
2151 Berkeley Way, Berkeley 4

PHYSICAL MEDICINE Karl H. Haase
Wadsworth General Hospital, V. A. Center, Las Angeles 25

PREVENTIVE MEDICINE AND
PUBLIC HEALTH Irving D. Litwack
2655 Pine Avenue, Lang Beach 6

PSYCHIATRY AND NEUROLOGY { Mark Zeifert
Henry S. Colony
Psychiatry: Mark Zeifert, 1065 S Street, Fresno 21
Neurology: Henry S. Colony, 411 Thirtieth Street, Oakland 9

RADIOLOGY Robert L. Scanlan
2131 West Third Street, Los Angeles 57

UROLOGY August Spitalny
3637 California Street, San Francisco 18

In Memoriam

BANNING, SAM HUMPHREY. Died in Pleasant Hill, August 6, 1961, aged 48. Graduate of the University of Oregon Medical School, Portland, 1944. Licensed in California in 1951. Doctor Banning was a member of the Alameda-Contra Costa Medical Association.



BARNES, PAUL DEWITT. Died in San Francisco, July 13, 1961, aged 74. Graduate of the University of Nebraska College of Medicine, 1913. Licensed in California in 1913. Doctor Barnes was a member of the Placer-Sierra-Nevada County Medical Society.



BRYANT, HARRY E. Died July 26, 1961, aged 77, of cerebral thrombosis. Graduate of Rush Medical College, Chicago, Illinois, 1909. Licensed in California in 1924. Doctor Bryant was a member of the Los Angeles County Medical Association.



CARY, JAMES ALISON. Died in an airplane crash near San Jose, July 23, 1961, aged 61. Graduate of Stanford University School of Medicine, Palo Alto and San Francisco, 1935. Licensed in California in 1935. Doctor Cary was a member of the Santa Clara County Medical Society.



FAIRBROTHER, WILLIAM CARTER. Died July 28, 1961, aged 59. Graduate of Rush Medical College, Chicago, Illinois, 1929. Licensed in California in 1946. Doctor Fairbrother was a member of the Los Angeles County Medical Association.



FAULKNER, EDWARD CORNELIUS. Died in Red Bluff, March 18, 1961, aged 63, of carcinoma of the bladder. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1929. Licensed in California in 1929. Doctor Faulkner was a retired member of the San Joaquin County Medical Society and the California Medical Association, and an associate member of the American Medical Association.



HALL, ERNEST M. Died in Arcadia, July 9, 1961, aged 76, of heart disease. Graduate of Stanford University School of Medicine, Palo Alto and San Francisco, 1925. Licensed in California in 1925. Doctor Hall was a member of the Los Angeles County Medical Association.



HEBEL, HERBERT DALE. Died in Long Beach, July 24, 1961, aged 49, of posthepatic cirrhosis. Graduate of the State University of Iowa College of Medicine, Iowa City, 1939. Licensed in California in 1949. Doctor Hebel was a member of the Los Angeles County Medical Association.



KATZ, MILTON A. Died in Los Angeles, July 27, 1961, aged 48. Graduate of the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1938. Licensed in California in 1945. Doctor Katz was a member of the Los Angeles County Medical Association.

MENKES, KARL. Died in Los Angeles, July 13, 1961, aged 66, of coronary occlusion. Graduate of Medizinische Fakultät der Universität, Wien, Austria, 1922. Licensed in California in 1942. Doctor Menkes was a member of the Los Angeles County Medical Association.



MILLER, WALLACE JENKS. Died May 31, 1961, aged 61, of multiple sclerosis. Graduate of Harvard Medical School, Boston, Massachusetts, 1926. Licensed in California in 1927. Doctor Miller was a member of the Los Angeles County Medical Association.



MYERS, ORRIS REID. Died in Apple Valley, July 18, 1961, aged 69. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1917. Licensed in California in 1919. Doctor Myers was a member of the San Bernardino County Medical Society.



NICHOLS, JACK. Died in Inglewood, July 11, 1961, aged 59, of coronary thrombosis. Graduate of the Medical College of Virginia, Richmond, 1938. Licensed in California in 1941. Doctor Nichols was a member of the Los Angeles County Medical Association.



RASOR, CLAIRE. Died in Oakland, July 24, 1961, aged 78, of postero-septal myocardial infarction. Graduate of Northwestern University Medical School, Chicago, Illinois, 1908. Licensed in California in 1910. Doctor Rasor was a member of the Alameda-Contra Costa Medical Association.



REVESZ, PAUL. Died in Alhambra, July 8, 1961, aged 57, of bronchial pneumonia. Graduate of Magyar Kiralyi Erzsébet Tudományegyetem Orvostudományi, Pecs, Hungary, 1935. Licensed in California in 1952. Doctor Revesz was a member of the Los Angeles County Medical Association.



STODDARD, JAMES McCANN. Died in Santa Barbara, June 28, 1961, aged 83. Graduate of Medical College of Indiana, Indianapolis, 1902. Licensed in California in 1921. Doctor Stoddard was a member of the Los Angeles County Medical Association, a life member of the California Medical Association, and a member of the American Medical Association.



THOMPSON, VERNON P. Died in Los Angeles, July 22, 1961, aged 62, of uremia and lymphosarcoma. Graduate of Harvard Medical School, Boston, Massachusetts, 1923. Licensed in California in 1923. Doctor Thompson was a member of the Los Angeles County Medical Association.



VISALLI, JOSEPH. Died January 17, 1961, aged 74. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1911. Licensed in California in 1911. Doctor Visalli was a member of the San Francisco Medical Society.



WOLFMAN, BENJAMIN H. Died in San Francisco, July 13, 1961, aged 49. Graduate of New York University College of Medicine, New York, 1936. Licensed in California in 1946. Doctor Wolfman was a member of the San Francisco Medical Society.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

THE GRANTING OF A LICENSE to manufacture Dr. Albert Sabin's oral poliomyelitis vaccine, Type 1, was announced August 17 by Dr. Luther L. Terry, Surgeon General of the U. S. Public Health Service.

While the California State Department of Public Health welcomes the licensing of this additional weapon against paralytic poliomyelitis, until all three types of poliomyelitis virus are included in an oral vaccine, the department can recognize the newly licensed vaccine only as a supplement to the Salk vaccine.

It cannot be regarded as a substitute for the Salk vaccine, which provides protection against all three types of paralytic poliomyelitis. In the nation as a whole, about 50 per cent of cases of paralytic poliomyelitis are Type 1, the remainder Type 3.

Nor does the department consider the single type Sabin oral vaccine as meeting the requirements of the compulsory school vaccination law (Assembly Bill 1940).

The State Health Department considers the oral vaccine as safe and effective, and as providing additional protection against Type 1 poliomyelitis—even for persons who already have had the full series of Salk inoculations. The most important value of this new vaccine will be in communities where there is an epidemic threat of Type 1.

This department and the members of its ad hoc Committee on the Prophylaxis of Poliomyelitis join Dr. Terry in his public statement that "it is of the highest importance that vaccinations continue with the Salk vaccine, which is the only weapon we have today to provide protection against all three types of polio."

The California Conference of Local Health Officers has recommended that California's premarital examination law be broadened to include a complete physical examination and premarital advice, in addition to the currently required blood test.

The recommendations were made following the results of a study by this department of the value of the premarital examination law in California.

The study disclosed:

1. Since 1940 some 3,700,000 persons have taken premarital examinations in California. Of these, 56,000 had reactive serologic tests for syphilis—a reactor rate of 1.55 per cent.

During 1959, 204,600 persons took premarital examinations. Of these, 2,047 had reactive blood tests. Twenty per cent of the persons with reactive blood tests were found on completion of diagnostic studies to be infected and not previously treated. In other words, of all who took the examination, one in 501 had previously unknown cases of syphilis that required treatment.

From the administrative point of view, no one has defined the cut-off point in terms of syphilis case-finding at which premarital examinations might no longer be considered worth while. An arbitrary decision might be made that for every 1,000 persons tested the activities are no longer worth the effort if only one person is found in need of treatment. Using this criterion, the law would have been discarded in 1954, when only one previously unknown case was found for every 1,266 persons taking the test.

However, since that time of low ebb, the ratio of cases found to persons tested has steadily increased to the 1959 figure of 1 to 501.

As part of the evaluation study, 563 persons were interviewed at the time they were applying for a marriage license and just after they had taken the premarital examination. The purpose of the interview was to determine the personal opinion and feeling of persons subjected to the examination.

Interview results were: Ninety per cent of the men and 80 per cent of the women indicated they had adequate knowledge of the purpose of the examination law; 98 per cent felt that this law is worthwhile; 11 per cent volunteered statements to the effect they felt the law should be strengthened and broadened to include a complete physical examination; 17 per cent stated they had asked questions of their physicians concerning health or marriage (of a premarital counseling type); and 15 per cent of the men and 20 per cent of the women stated they had questions concerning family planning that they would have liked to have asked at the time of their examination, but did not do so.

An assessment of states other than California revealed that no studies of premarital examination laws in any depth have been performed beyond reporting the mean serologic reactivity rates. When comparing data between states, California is about in the middle, compared to the reactivity rates of all states.



WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

The Physician's Wife and Legislation

WE, THE MEMBERS of the Auxiliary, are organized solely for the purpose of helping foster any and all programs of the medical association on national, state, and local levels. Its aims and problems are ours. We stand to gain or lose in direct proportion with it, in all it strives to accomplish. Today, as never before, medicine is fighting to maintain its very existence as a free and unfettered profession. It is in this field—legislation—that the Auxiliary can have the greatest impact.

In years past, a physician's wife was not to have or express opinions on such grave matters. She was pictured as a mother, church leader and civic volunteer for any or all minor local programs. She agreed with everyone and was never involved in any controversial issues. Her role in such areas was that of public relations agent for her husband, as an individual. The clubs she joined and the entertaining she did was all done with one goal in mind, trying to lighten the load one physician was carrying. The complex situations were left for her husband to decide. Professional problems were not within her scope. And lastly, she never became involved in any political problems.

Today, the picture is greatly changed. The physician's wife is now a vital part of everything involving medicine in a legislative way. She still must carry on the aforementioned duties, but added to them is the part she must play in helping educate the public about the pitfalls of socialism. The latter has come about at the request of the medical association itself.

A physician's wife, being in most cases an active community leader, has golden opportunities every day to influence many groups of people. A well informed Auxiliary member could do more with a few well chosen words at a bridge table than all the speeches and campaigns combined.

This brings us to the most important aspect of legislation. To be of assistance to medicine, we must be well and correctly informed. Both the American Medical Association and California Medical Association have realized the necessity of a well educated Auxiliary. We have been included in meetings of their legislative committees and shown at first hand why certain policies are pursued. All our requests have been fulfilled and all questions answered. Never have any of their officers or representatives been too busy to respond when we call on them. If we are not well versed in legisla-

tion, we have ourselves to blame. They have given us the tools with which to work; it is up to us to use them.

The individual Auxiliary member may ask, and rightly so, what she—one person—can do to forestall bad legislation that bears on the whole nation. It is each one of us, individually, that is most important. Since our government is based on rule by representation, we have a big part to play at home. Your elected representatives have their ears tuned to the needs of their constituents. These needs must be made known. You, personally, can help sway a vote in Congress or the Assembly by letters. Urge all your friends and acquaintances to write to their government representatives. If they know the basic issues involved, they will be happy to help you. Refute statements by anyone who says, "You are wasting your time writing." Men in the medical profession, testifying before congressional committees have been bolstered by letters from citizens backing their point of view.

Knowing who represents you and how he or she represents you is also important. Make a friend of your elected official. Start a get acquainted program of your own. It is much easier to communicate with a friend than a stranger. Let your representatives know you are aware of what they are doing, on what committees they serve, and how they vote. They will welcome your interest. Question them on reasons for specific stands they have taken on particular bills. If they do not agree with you, be pleasant and try in a courteous way to show them why you disagree. Communicate with them between elections. Too often we do all our legislating at election time, when it may be too late.

Physicians' wives can be an asset to their busy husbands beyond the role of hostess. Keeping abreast of the new techniques and medicines is an almost insurmountable task, and consumes the larger part of a physician's "leisure" time, and since his first responsibility is to his patients, what happens politically is a secondary concern. If the physician's wife is well informed, she can keep her husband up to date on what is happening in Washington and Sacramento. Legislation is intriguing, and the most complacent become vigorous champions of sound government if they are exposed to basic facts.

The legislative committee of the Auxiliary functions only on the recommendation and approval of the medical association. We are ready and willing to assist at all times.

MRS. ROBERT J. DOUDS
*State Legislative Chairman
Woman's Auxiliary to C.M.A.*

INFORMATION

Data on Aging

Federal payment for hospitalization and partial medical care of certain citizens 65 and over is proposed in H.R. 4222. There are several important aspects of this proposed legislation which merit consideration, notably (1) How great is the actual need? and (2) Who would actually be covered by the proposed measure?

1. The need for subsidized hospitalization and medical care is believed to be distinctly limited. A national study of the total life situation of those 65 and over (by Wiggins and Schoeck) showed that 90 per cent of the respondents reported no unmet medical needs of which they were aware. About 96 per cent reported no medical debts. This would leave presumably 4 per cent with such debts.

2. The proposed legislation would cover those eligible for benefits under the Social Security Act and the Railroad Retirement Act, but not other elderly persons.

The Wiggins-Schoeck Report has been bitterly assailed by supporters of H.R. 4222 as being nonrepresentative and incomplete. Its authors (in a recent letter to *Science*) point out that it is indeed representative of the older population currently designated in H.R. 4222, and that it intentionally omitted those segments which would not be covered by H.R. 4222. In other words the data on needs of elderly persons as uncovered by Wiggins and Schoeck is pertinent to the legislation at hand. For this reason it is believed that physicians will be interested in reading the reply of these authors to the criticisms of their survey.

With the permission of *Science* and of the authors, it is reprinted herewith.

In the section "Science in the news" *Science* carried an unsigned story [132, 604 (2 Sept. 1960)] regarding research done by us. On 19 October 1960 an employee of *Science* signed a receipt for a registered letter which we submitted for publication in reply to this story. You recently informed us, with an apology which we are happy to accept, that our letter was misplaced before it could be printed. Since we do not care to enter the name-calling arena, which is political rather than scientific, we wish, again, to comment about our study and its data.

"A Profile of the Aging: U.S.A." is the first national study of the total life situation of the population 65 years of age and older. Previous national studies have focused on economic status (Steiner and Dorfman), on health and economic status (Shanas et al.), or on medical expenditures and medical costs (Odin W. Anderson et al.; U. S. Social Security Administration publications). The U. S. Bureau of the Census regularly collects limited data about the total population, which include the

"older" category. By contrast, our interviewers asked more questions about religion and religious participation than about health and the economics of health.

We excluded certain groups, chief of which were the recipients of old age assistance grants. Here we followed the precedent of the Social Security Administration, whose 1956 study excluded recipients of old age assistance unless they also received social security payments. It has been estimated that the often-quoted Social Security study *excluded* 55 per cent or more of persons 65 and over. Other studies have typically excluded certain categories of the universe to be sampled, and a recently reported national study excluded "individuals in certain occupational groups and those living in institutions."

We are pleased to report that it has been unnecessary to weight any of our data to produce an artificial "representativeness" in our sample. The readers of *Science* will doubtless know that weighting of strata in sample data is a common procedure when the actual sample is found not to be representative of the population sampled. The findings of the U. S. Bureau of the Census are commonly "weighted," particularly in the "Current Population Reports," but also in the "Decennial Censuses of Population." Steiner and Dorfman reported that their data were weighted to compensate for underrepresentation of certain characteristics of the population. A recent report of a joint study by the Health Information Foundation and the National Opinion Research Center (NORC) included weighted as well as unweighted data. We do not wish to be understood as criticizing these weighting procedures. Rather, we invite attention to their being commonplace, and to the high representativeness of our own sample, which made weighting unnecessary.

Characteristics of our sample are compared to independent estimates of the United States population 65 years of age and over in Table I. It should be noted that the sample was not stratified for these characteristics, and that the data shown for the "Profile" study are purely random.

The readers of *Science* will be familiar with a number of procedures for analyzing the "fit" of the two sets of characteristics.

Considerable attention has been given to our findings, with the statement or inference that they are inaccurate. As a matter of information only, it can be reported that the findings of the Steiner-Dorfman study were called "controversial." Ethel Shanas's National Opinion Research Center study also created considerable discussion. Her report of income for the aged was higher than U. S. census estimates, and she reported that 60 per cent of the aged are either as well off economically after the age 65 as before, or are better off after 65. In spite

Reprinted from *Science*, 133:1625-26, May 19, 1961.

of the generally recognized fact that census figures for income are some 20 per cent too low, Shanas's findings were attacked again in the "Background Paper on Income Maintenance," prepared for the 1961 White House Conference on the Aging. (It seems fairly obvious that the Social Security study would tend to substantially understate income, since the recipients of Social Security retirement grants are removed from the rolls if their income from employment rises too high.)

From the latest data available, it is illuminating to examine the income of the aged. The "Chart Book" for the White House Conference on Aging states that federal programs provided \$17 billion in benefits and services to the aged population. The "Background Paper on Income Maintenance" reported that the federal programs provided between one-third and two-fifths of the total income to the aged. Assuming the lesser total income, we reach a gross income for 17 million aged of \$42.5 billion. Simple arithmetic reduces this to an average per capita income of \$2,500. The median aged respondent in the "Profile" study reported income between \$2,000 and \$3,000.

Our findings in the field of health produced some comment. We found that 90 per cent of our respondents had no unmet medical needs that they knew of. It has been suggested that all kinds of people know more about an older person's health than he does. In any case, a considerable number of studies by state or region, and most national studies, have assumed that the respondent has a fair idea whether he is sick or not.

Ninety-six per cent of our respondents reported no medical debts, and exactly the same percentage was found by Steiner and Dorfman for 1951.

The most recent study of medical expenses of the aging known to us is based on data collected through the National Opinion Research Center. Odin W. Anderson, Patricia Collette, and Jacob J. Feldman, in "Family Expenditures for Personal Health Services" (Health Information Foundation, 1961), present findings comparable to our own. The "Profile" study showed that 97 per cent of respondents had expenditures for physicians below \$50 for one month, and that 2 per cent had expenses above \$50 but below \$100. Anderson et al. found that 36 per cent of their aged respondents had expenditures for physicians below \$100 for an entire year. The "Profile" study showed that 95 per cent of the respondents had no hospital expenditures in one month and that 3 per cent had hospital expenditures below \$100. Anderson reports that 36 per cent of his aged respondents had no hospital expenditures in a year, and that 5 per cent had hospital expenditures below \$100. According to the "Profile" study, 93 per cent of the aged had expen-

TABLE 1.—Random Characteristics of the "Profile" Study Sample Compared with Data from Other Sources

"Profile" Study		U. S. Census*	NORC†
Category	Per Cent	Per Cent	Per Cent
Age distribution:			
65 to 69.....	34.5	37.5	
70 to 74.....	26.5	28.0	
75 to 79.....	22.3	19.3	
80 to 84.....	11.5	9.8	
85 and over.....	4.3	5.3	
Marital status:			
Married	54.0	51.9	
Divorced	3.0	1.5	
Widowed	35.4	38.1	
Single	6.4	7.2	
Separated	0.4	1.3	
Not married	46.0	48.2	
Religious preference:			
Protestant	74.5	67.9	
Catholic	19.0	22.2	
Jewish	4.7	3.7	
Other	1.7	1.3	
Sources of income:			
Employment	31.4		30.4
Old age and survivors insurance	58.8		57.3‡
Rent	20.0		17.8
Non-cash assistance	32.1		30.8

*Age distribution data for 1957; marital status data for March 1959 [Current Population Repts. Ser. P-20, No. 96 (1959)]; religious preference data for 1957 [Current Population Repts. Ser. P-20, No. 79 (1958)].

†Data for 1956.

‡Includes related programs.

ditures for medicines of less than \$50 in a month, while Anderson reported that 83 per cent had spent less than \$100 for (prescribed) medicines in a full year.

If a few of our regional associates in the study, in response to a request from a subcommittee of the United States Senate, have felt it their duty to support the subcommittee, we may expect the data to be biased in favor of universal misery. If, in spite of the data they delivered and certified to us, some associates wish to believe that the aging are in a grave plight, it is a tribute to their professional competence and scholarly objectivity that they furnished the data as obtained by the interviewers. It has often been said that a chief mark of the scientist is that he even reports findings he does not like.

JAMES W. WIGGINS
HELMUT SCHOECK

Emory University, Atlanta, Georgia

Our reporter did try to contact Wiggins and Schoeck before publishing the news article. He telephoned Atlanta, but was unable to reach them. His report was based not on the press releases of the Senate subcommittee but on an examination of the letters in the files of the subcommittee; interviews with American Medical Association officials in Washington; the report, under the by-line of Wiggins and Schoeck in the *Wall Street Journal* summarizing the findings of their study; and the A.M.A. press release interpreting their work.—Ed. [Science]

Letters to the Editor...

Resolution on C.P.S.

IN THE INTERESTS of verity may I draw your attention to a small but important typographical erratum in your July 1961 issue—an erratum calling doubly for correction because of your apparent initiation of a new policy, that of not printing those resolutions which failed of adoption by the House of Delegates.

As you well know, causes novel or original are frequently unpopular when first proposed but, if meritorious, can eventually be adopted—to the ultimate benefit of all concerned. For this reason they do not deserve burial or censorship—if space permits. And a glance at the space devoted to the empty two gloves on page 31 suggests such does exist.

The erratum is the insertion of the prefix “DIS” before the word “SOLUTION” on page 58. In justice to a past Secretary of the Association, one who attended many C.P.S. Trustees meetings, and one deeply interested in the maintenance of sound private medical practice of good quality, I believe you should publish a corrected title and print the resolution in full. Then by all means add the fact that this year it was not adopted.

Our President writes of the “tyranny of bureaucratic . . . administrative decision” and the need for survival of the “personal competent physician.” He links C.P.S. and C.M.A. in this twin appeal. May I likewise ask freedom from what might be construed as bureaucratic infringement, and in the very interest of competent medical care.

Consistency in support of free enterprise (and avoidance of subsidy) does not mean dissolution; a return to first principles does not mean dissolution; support of good individual physician service does not mean dissolution. Surely we can well afford to pay a fair tax if we *must* be in the insurance business.

L. H. GARLAND, M.D.

The resolution in question was as follows:

RESOLUTION ON C.P.S.

Resolution No. 107

To Reference Committee No. C.P.S.

Introduced by: L. H. Garland, M.D.

Representing San Francisco

Date: April 30, 1961

WHEREAS, C.P.S. does not encourage the provision of a good quality of medical care when it provides inadequate allowances for many of its physician members; and

WHEREAS, C.P.S. has repeatedly been asked by the doctors of California to stress indemnity-type health coverage rather than service-type benefits; and

WHEREAS, it is scarcely logical for doctors who advocate private enterprise on the one hand to endorse a special tax-free status or public subsidy for C.P.S. on the other; and

WHEREAS, voluntary private-enterprise health insurance has progressed well in states without a doctor and tax-subsidy plan like C.P.S.; and

WHEREAS, the medical profession should not be in the insurance business, especially one with a total annual turnover of some \$57,000,000; now, therefore, be it

Resolved: That C.P.S. be directed to return to its original purpose of providing pilot sickness service programs for the lower income groups; and be it further

Resolved: That the C.M.A. Council give serious consideration to introducing legislation to repeal the tax-free status of C.P.S. so that if continued on its present scale it may compete fairly with regular private enterprise insurance companies that pay taxes; and be it further

Resolved: That C.P.S. be aided in gradual transference of its activities to regularly constituted and properly operated private voluntary health insurance companies.

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

A visiting scientist from Sweden, Dr. Lars Söderhjelm, will be associated with Dr. Arild E. Hansen, research director, at the **Bruce Lyon Memorial Research Laboratory** of Children's Hospital of the East Bay, Oakland, California, during the next year. Dr. Söderhjelm is in this country on a grant from the National Institutes of Health of the U. S. Department of Health, Education, and Welfare. He is particularly interested in the problem of fat absorption in infants. During his year here, he will work on certain phases of lipid metabolism, particularly certain fundamental mechanisms involving B6 metabolism.

LOS ANGELES

The tenth annual conference of the U. S. Civil Defense Council will be held October 16-20 at the Ambassador Hotel, Los Angeles, according to Dr. Justin Stein, chairman of the CMA Committee on Disaster Medical Care. The meeting is open to all. Details may be obtained from the conference chairman, Joseph J. Micciche, 6501 Fountain Avenue, Hollywood 28.

* * *

Research applications are now being accepted for 1962-63 support in the field of **cardiovascular research**, according to Dr. Edward Phillips, president of the Los Angeles County Heart Association. Applications for fellowship support, which includes research fellowships, advanced research fellowships and established investigatorships, must be received not later than October 15, 1961. Applications for grants-in-aid must be received on or before February 1, 1962.

Further information may be obtained from the Research Section at the Los Angeles County Heart Association, 2405 West Eighth Street, Los Angeles, 'phone DUnkirk 5-4231.

* * *

The **Western Industrial Health Conference** will hold its fifth annual meeting at the Biltmore Hotel, Los Angeles, on October 6 and 7, 1961.

An extensive program of general and special sessions has been planned by Dr. Clarence Lee Lloyd, president of the Western Industrial Medical Association, who is chairman of the Conference. Further information may be obtained from Dr. Henry G. Morgan, 1136 West Sixth St., Los Angeles 17.

* * *

Officers of the **Southwestern Pediatric Society** for the current year are president, Dr. Harry O. Ryan, Pasadena; vice-president, Dr. J. Harold Batzle, Riverside; and secretary, Dr. R. Wendell Coffelt, Burbank.

The organization will have four closed meetings in the coming year, with attendance by invitation: September 27, 1961, November 29, 1961, January 17, 1962, at the University Club, Los Angeles; and Spring two-day meeting at the Coronado Hotel, San Diego, on May 25 and 26.

* * *

The 1961-62 officers of the **Los Angeles Radiological Society** who took office on September 1, are: president, Dr. Robert B. Engle; vice-president, Dr. Denis C. Adler; treasurer, Dr. Walter L. Stilson; secretary, Dr. Saul Heiser.

The Society meets the second Wednesday of September, November, January, March and June at the Los Angeles County Medical Association Building.

SAN FRANCISCO

Out-of-state guest speakers who will give papers at the **Sau Francisco Heart Association's** thirty-first annual **postgraduate symposium**, to be held September 27-29 in San Francisco, are Drs. Eugene Braunwald of the National Heart Institute, Harry W. Fritts, Jr., of the College of Physicians and Surgeons of Columbia University, C. Walton Lillehei of the University of Minnesota Medical School, Gordon S. Myers of Harvard Medical School, Abraham M. Rudolph of the Albert Einstein College of Medicine and Robert W. Wilkins of Boston University School of Medicine.

SANTA CLARA

Dr. Hugh R. Butt of the Mayo Foundation, University of Minnesota, will deliver the first **Albert M. Snell Memorial Lectures** on Monday and Tuesday, October 16 and 17. The lectures will be given in the Palo Alto Community Center Theatre, both at 8 p.m. They are supported by the Albert M. Snell Memorial Fund, established in the Foundation by Dr. Snell's friends and colleagues upon his death in 1960. Dr. Butt's presentations will be the first of a biennial series. He has chosen as his topics, "Hepatic Coma: Clinical and Physiologic Implications" (October 16) and "The Hepatic Cell: Effect of Disease on Structure" (October 17).

GENERAL

The California Medical Association's **Bureau of Research and Planning** is urging all physicians in the state to participate in a study on the **characteristics of physicians** which will be conducted by the Bureau around the last week in September.

Every physician, regardless of whether he is a member of the California Medical Association, is asked to return promptly a questionnaire which the Bureau will send to him. When analyzed, the information on various aspects of medical practice will be of considerable interest and value to physicians in California, the Bureau said.

"The survey will also enable the C.M.A. Bureau to construct sampling surveys on a variety of subjects of socio-economic interest" that are planned for 1962, the Bureau concluded.

* * *

New drugs, medical quackery, future training programs and professional liability are among subjects to be considered by **medical assistants** when they gather October 13-15 at Reno, Nevada, for the fifth annual convention of the American Association of Medical Assistants.

More than 1,000 medical assistants are expected to attend the meeting at the Holiday Hotel to hear talks by physicians, professional management experts, educators and officials from governmental, pharmaceutical and military fields.

Dr. Leonard W. Larson, Bismarck, N. D., president of the American Medical Association, will address the group at a banquet October 15.

* * *

The **Third National Conference on the Medical Aspects of Sports** sponsored by the American Medical Association, under the auspices of the AMA Committee on the Medical Aspects of Sports, will be held in Denver, Colorado, at the Cosmopolitan Hotel on November 26, 1961. The Conference will be held in conjunction with the annual Clinical Meeting of the American Medical Association, November 26-30, 1961.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Obesity and Adolescence. Saturday, 8:30 a.m. to 5:30 p.m., October 21. Eight hours. No fee.

For information on courses for physicians or ancillary personnel *contact:* Lowell A. Rantz, M.D., associate dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Clinical Traineeships — Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

General Pediatrics. Thursday evenings, September 21 through December 14. Harbor General Hospital, Torrance. Thirty hours. Fee: \$50.00.

Teaching Clinics. September 21 through December 14, Thursday evenings, UCLA Medical Center, Room 13-105. 24 hours. Fee: \$60.00.

Elements of Psychiatry in Clinical Practice. Thursday evenings, October 1 through June 10. (Two conferences at Lake Arrowhead, plus weekly Thursday evening sessions.) Fee: \$162.50.†

Basic Science Course in Ophthalmology. Wednesday afternoons, October 18 to April 11. Forty-eight hours. Fee: \$175.00.

Low Back Pain. Saturday and Sunday, December 2 and 3.*†

Peripheral Vascular Disease. Friday and Saturday, December 1 and 16.*†

A Clinical Postgraduate Program in Mexico. February 21 through March 1. Fee: \$100.00.

A Clinical Postgraduate Program in Japan and Hong Kong. April 8 through 28. Fee: \$200.00.

For information on courses for physicians or ancillary personnel *contact:* Thomas H. Sternberg, M.D., assistant dean for Continuing Medical Education, U.C.L.A. Medical Center, Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Obstetrics and Gynecology. Thursday through Saturday, September 14 through 16. Twenty-one hours. Fee: \$50.00.

Internal Medicine—A Selective Review. Monday through Friday, September 18 through 22. Thirty-five hours. Fee: \$90.00 per month.

Psychotherapy in Medical Practice (Langley Porter). September 20 through December 6, Wednesdays. Forty-eight hours. Fee: \$25.00.

Nervous Patients in Everyday Practice—Oakland. (Highland Alameda County Hospital). September 23 through October 28, Saturday mornings. Fee: \$5.00.†

Neuropsychiatry in General Practice. Thursdays, September 28 through November 2. Napa Hospital. Twelve hours. Fee: \$5.00.

Evening Lectures in Medicine. Oakland Hospital, Tuesday evenings, October 3 through November 28. Sixteen hours. Fee: \$35.00.

Bone: Clinical Application of Recent Advances. Saturday through Monday, October 7 through 9. Twenty-one hours. Fee: \$50.00.

Urology: An Intensive Survey of Newer Concepts. Friday through Sunday, October 13 through 15. Twenty-one hours. Fee: \$60.00.

Man to Man: An Historical Overview. October 19 through December 14, Thursday evenings. Fee: \$10.00 (\$1.50 single admission). Ten hours.

Problems Due to Infection in Medicine and Surgery. Saturday and Sunday, October 28 and 29. Franklin Hospital. Fourteen hours. Fee: \$25.00.

Diagnosis in Ophthalmology. Thursday through Saturday, November 2 through 4. Twenty-one hours. Fee: \$60.00.

Problems of Adolescence. Children's Hospital, Saturday, November 4. Seven hours. Fee: \$12.50.

Alcohol and Civilization. Saturday through Monday, November 11 through 13. Twenty-one hours. Fee: \$25.00.

Psychiatry in General Practice. Napa State Hospital, Saturday and Sunday, November 18 and 19. Fourteen hours. Fee: \$10.00.

Hematology. Wednesday through Friday, November 29 through December 1. Eighteen hours. Fee: \$35.00.

Surgery of the Hand and Forearm. Friday through Sunday, December 1 through 3. Twenty-one hours.*

Diseases of the Cornea. Thursday through Saturday, December 7 through 9. Eighteen hours. Fee: \$50.00.

Psychiatry in Everyday Practice (Stockton State Hospital). December 9 and 10, Saturday and Sunday.*†

Skin Problems in Children. Saturday, January 13, 1962. Children's Hospital. Seven hours. Fee: \$12.50.

A Clinic on Human Disability (Morrison Center for Rehabilitation). January 19 and 20, Friday and Saturday.*†

Man and Civilization: Control of the Mind, Part II. Saturday through Monday, January 27 through 29. Seven hours. Fee: \$25.00.

Psychotherapy in Medical Practice (Langley Porter). January 31 through April 18, Wednesdays. Forty-eight hours. Fee: \$25.00.

Evening Lectures in Medicine (Brookside Hospital, Richmond). February 1 through March 15, Thursday evenings. Twelve hours.*

Dermatology. Friday through Saturday, February 9 and 10. Fourteen hours. Fee: \$40.00.

Course for Physicians in General Practice (Mount Zion Hospital). February 26 through March 2, Monday through Friday. Fee: \$85.00.†

Child Development. Saturday, March 10. Seven hours. Children's Hospital.*

Diagnostic Radiology. March 14 through 18, Wednesday through Sunday. Fee: \$80.00.†

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Use of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

* Fees to be announced.
† Hours to be announced.

For information on courses for physicians or ancillary personnel *contact*: Department of Continuing Medical Education in Medicine and Health Sciences, University of California Medical Center, San Francisco 22. MONTROSE 4-3600, Ext. 665.

PRESBYTERIAN MEDICAL CENTER, SAN FRANCISCO

Conference on Allergy. November 11, Saturday. Eight hours. Fee: \$25.00.

Conference on Arthritis. December 9, Saturday. Eight hours. Fee: \$25.00.

Conference on Proctology. January 5, Friday. Eight hours. Fee: \$25.00.

Conference on Office Diagnosis. January 20, Saturday. Eight hours. Fee: \$25.00.

Conference on Office Gynecology and Obstetrics. February 5, Monday. Eight hours. Fee: \$25.00.

Conference on Eye, Ear, Nose and Throat. February 17, Saturday. Eight hours. Fee: \$25.00.

Conference on the Hand and Foot. March 10, Saturday. Eight hours. Fee: \$25.00.

Conference on Emergencies. March 24, Saturday. Eight hours. Fee: \$25.00.

Contact: Arthur Selzer, M.D., program committee chairman, Presbyterian Medical Center, Clay and Webster Sts., San Francisco 15, WEst 1-8000, Ext. 303 or 414.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advanced Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Intensive Review of Internal Medicine. Monday through Friday, September 11 through 22, 8:30 a.m. to 12:30 p.m., Los Angeles County Hospital. Fee: \$65.00.

Bedside Clinics and Set Clinics in Internal Medicine. Thursday evenings, October 5 through January 11, 1962, 7:30 to 9:30 p.m. Los Angeles County Hospital. Fee: \$65.00.

Dermal Pathology. Friday and Saturday, October 20 and 21. Ambassador Hotel. Fee: \$37.50 includes one luncheon and coffee break.

Funduscopy in Internal Medicine. Tuesday evenings, November 7 through November 28, 7 to 9 p.m. Los Angeles County Hospital. Fee: \$37.50. Enrollment limited to 20.

Review of Recent and Practical Problems in Medicine (Homecoming). Thursday and Friday, November 9 and 10, Statler Hotel, Los Angeles.*

Symposium on Anticoagulant Therapy. Friday, November 24. Fee: \$25.00.

Bedside Cardiology. Thursday evenings, February 8 through April 26, 1962, 7:30 to 9:30 p.m. Los Angeles County Hospital.

Refresher Course to be held in Western Europe. Dates to be announced.

Hawaii Course. Summer of 1962.

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

LOMA LINDA UNIVERSITY

Clinical Traineeships available in clinical departments by arrangement with Postgraduate Division and Postgraduate Chairman of department involved. In addition to those listed other traineeships in other departments can be arranged. Eighty hours minimum. Limited enrollment. Begin when individually arranged.

1. **Anesthesia.** Six months. 250 to 300 hours. Fee: \$350.00.

2. **Internal Medicine.** Two weeks to nine months.

3. **Pulmonary Diseases** (can be arranged).

4. **Traumatology.** One month. 160 hours. Fee: \$125.00.

5. **Urology** (can be arranged).

Refresher Courses: General Surgery, Internal Medicine, Obstetrics-Gynecology. Los Angeles Campus (White Memorial Hospital). March 11 and 12, Sunday and Monday. *Contact*: Alumni Association, School of Medicine, 316 No. Bailey Street, Los Angeles 33, AN 2-2173.

For information contact: Division of Postgraduate Medicine, Loma Linda University, 1720 Brooklyn Ave., Los Angeles 33. ANGelus 9-7241, Ext. 214.

Illustrated Medical Lectures: Thirty-minute tape recordings and accompanying 35 mm. filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. Twelve or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. *Contact*: Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE CIRCUIT COURSES

Sacramento Valley Counties in Redding, Chico, Marysville, and Auburn in cooperation with University of California San Francisco School of Medicine. Begins week of September 18, 1961.

North Coast Counties in Eureka, Ukiah and Napa in cooperation with Stanford University School of Medicine. Begins week of September 18, 1961.

West Coast Counties in cooperation with Stanford University School of Medicine on Friday, October 20, 1961, at Sister's Hospital, Santa Maria, and on Saturday, October 21, 1961, The General Hospital, San Luis Obispo.

POSTGRADUATE INSTITUTES—1962

Southern Counties in cooperation with University of California Los Angeles School of Medicine. Balboa Bay Club, Balboa. February 8 and 9, 1962. *Chairman*: Bertram L. Tesman, M.D., 1781 West Romneya Drive, Anaheim, California.

West Coast Counties in cooperation with University of Southern California School of Medicine, Del Monte Lodge, Pebble Beach. March 8 and 9, 1962. *Chairman*: Joseph E. Turner, M.D., 1073 Cass Street, Monterey.

North Coast Counties, in cooperation with Stanford University School of Medicine. Hoberg's Resort, Lake County, March 29 and 30, 1962. *Chairman*: Lucius L. Button, M.D., 1102 Montgomery Drive, Santa Rosa.

San Joaquin Valley in cooperation with University of California San Francisco School of Medicine. Ahwahnee Hotel, Yosemite. May 3 and 4, 1962. *Chairman*: Samuel Ross, M.D., 2946 Fresno Street, Fresno.

Sacramento Valley Counties in cooperation with Loma Linda University. Lake Tahoe. June 21 and 22, 1962. (Chairman to be announced.)

AUDIO-DIGEST FOUNDATION

A nonprofit subsidiary of California Medical Association, offers a subscription series of hour-long tape recordings condensing highlights of important literature and leading national meetings. Designed to be heard in the automobile, home or office. Six different services are offered—General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, and Anesthesiology. Also, just compiled and released is a Catalog of Classics, offering panel discussions and symposia on specific subjects in all specialties. For information contact Mr. Claron L. Oakley, Editor, 619 So. Westlake Avenue, Los Angeles 57, Hubbard 3-3451.

Medical Dates Bulletin

SEPTEMBER MEETINGS

SOUTHERN CALIFORNIA CHAPTER, NATIONAL KIDNEY DISEASE FOUNDATION, INC. First Professional Kidney Symposium, Ambassador Hotel, Los Angeles, September 13, 9:00 a.m. to 5:00 p.m. Fee: \$12.50 (includes lectures and lunch). *Contact:* Mrs. Jean Gordon, administrative assistant, 1227½ South La Brea, Los Angeles 19.

LOS ANGELES PEDIATRIC SOCIETY Meeting. The use of Amphetamine Tranquilizers and Psychic Energizers in Pediatrics, September 14, 6:30 p.m. Los Angeles County Medical Association Building, 1925 Wilshire Boulevard, Los Angeles. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.

ST. JOHN'S HOSPITAL Postgraduate Assembly, September 14 through 16. St. John's Hospital, 1328 22nd St., Santa Monica. *Contact:* John C. Eagan, M.D., director, 1328 22nd St., Santa Monica.

SANTA BARBARA COUNTY HEART ASSOCIATION and VENTURA COUNTY HEART ASSOCIATION Sixth Annual Symposium on Cardiovascular Disease. September 16, 9 a.m. to 5 p.m. Santa Barbara Biltmore Hotel. *Contact:* Mrs. Sara Clyde, executive director, 18 La Arcada Court, Santa Barbara. Robert E. Wolf, executive director, 3451 Foothill Rd., Ventura.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention. September 17 through 20. Olympic Hotel, Seattle, Wash. *Contact:* R. W. Neill, 1309 7th Ave., Seattle.

SAN FRANCISCO HEART ASSOCIATION 31st Annual Postgraduate Symposium. September 27 through 29, St. Francis Hotel, San Francisco. *Contact:* Gene Taylor, executive director, 259 Geary Street, San Francisco 2.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting. September 29 through October 1. Hotel del Coronado, Coronado. *Contact:* Philip L. Pillsbury, M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

OCTOBER MEETINGS

KAISER FOUNDATION HOSPITALS IN NORTHERN CALIFORNIA Fifth Annual Symposium on Immunology and Autoimmune Disease. October 6 and 7, Fairmont Hotel, San Francisco. *Contact:* Martin A. Shearn, M.D., director of medical education, 280 West MacArthur Blvd., Oakland.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION Western Occupational Health Conference, October 6 and 7, Biltmore Hotel, Los Angeles. *Contact:* B. M. Brundage, M.D., Medical Director, Atomics International, P. O. Box 309, Canoga Park, Calif.

AMERICAN CANCER SOCIETY, CALIFORNIA DIVISION Cancer Conference for Physicians, October 11, 3:00 to 9:00 p.m., Del Coronado Hotel, San Diego. *Contact:* Miss Jane Lounsbury, 467 O'Farrell Street, San Francisco 2.

AMERICAN CANCER SOCIETY ANNUAL MEETING. October 12 through 14, Del Coronado Hotel, San Diego. *Contact:* Miss Jane Lounsbury, 467 O'Farrell Street, San Francisco 2.

LOS ANGELES COUNTY HEART ASSOCIATION Professional Symposium. October 11 and 12, 9 a.m. to 5 p.m., Statler Hilton Hotel, Los Angeles. *Contact:* Edward Shapiro, M.D., chairman, Professional Symposium Committee, 2405 W. 8th St., Los Angeles 57.

SEQUOIA HOSPITAL FOURTH ANNUAL SYMPOSIA, "Man and His Environment." October 14, 8:30 a.m. Sequoia Hospital, Redwood City. *Contact:* Eldon E. Ellis, M.D., program chairman, Sequoia Hospital, Redwood City.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Scientific Assembly. October 15 through 18, Statler Hilton Hotel, Los Angeles. *Contact:* William W. Rogers, Exec. Secretary, 461 Market Street, San Francisco 5.

FIRST ALBERT M. SNELL MEMORIAL LECTURES to be delivered by Hugh R. Butt, M.D. October 16 and 17. Topics: "Hepatic Coma: Clinical and Physiologic Implications" on Monday, and "The Hepatic Cell: Effect of Disease on Structure" on Tuesday. Palo Alto Community Center Theatre at 8:00 p.m. *Contact:* Marcus A. Krupp, M.D., Palo Alto Medical Research Foundation, 860 Bryant Street, Palo Alto.

SOUTHWESTERN MEDICAL ASSOCIATION 43rd Annual Meeting, October 19 through 21. Tropicana Hotel, Las Vegas, Nevada. Registration: \$25 (includes 2 roundtable discussion luncheons). *Contact:* Mott, Reid, and McFall, 310 North Stanton Street, El Paso, Texas.

WEST COAST PSYCHOANALYTIC SOCIETIES Meeting, Beverly Hills, October 21 and 22. *Contact:* Executive Secretary, Los Angeles Institute for Psychoanalysis, 344 North Bedford Drive, Beverly Hills.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, Fullerton, October 22, all day beginning at 8:30 a.m. *Contact:* B. L. Tesman, M.D., St. Jude Hospital, Fullerton.

AMERICAN SOCIETY OF ANESTHESIOLOGISTS, INC., October 22 through 27, Statler Hilton, Los Angeles. *Contact:* Mr. John W. Andes, executive secretary, 515 Busse Highway, Park Ridge, Illinois.

CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS Fall Meeting, Woodland, Calif., October 25 and 26. *Contact:* Donald C. Davy, M.D., assistant to chief, Division of Community Health Services, Dept. of Public Health, Berkeley 4.

KERN COUNTY GENERAL HOSPITAL Postgraduate Conference and Alumni Day, October 27, 7:30 a.m. to 5:00 p.m. *Contact:* George A. Paulsen, M.D., chairman, Postgraduate Conference Committee, Kern County General Hospital, 1830 Flower Street, Bakersfield.

SAN DIEGO COUNTY HEART ASSOCIATION Eleventh Annual Symposium. San Diego Veterans War Memorial Building, October 27 and 28. *Contact:* O. M. Avison, executive director, 3545 Fourth Avenue, San Diego 3.

NOVEMBER MEETINGS

AMERICAN COLLEGE OF PHYSICIANS Southern California Region 4th Annual Basic Science Lecture Dinner. Statler Hilton, Los Angeles, November 1, 6:30 p.m. *Contact:* George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.

SAN DIEGO COUNTY GENERAL HOSPITAL Fifteenth Annual Postgraduate Assembly, November 1 and 2. No registration fee. *Contact:* David E. Wile, M.D., chairman, San Diego County General Hospital, San Diego.

PRESBYTERIAN MEDICAL CENTER "All Day" Clinical Conference in Ophthalmology, November 4, 9:00 a.m., Lane Hall, Presbyterian Medical Center, San Francisco. *Contact:* J. W. Bettman, M.D., chief of ophthalmology, 2351 Clay Street, San Francisco 15.

LOS ANGELES PEDIATRIC SOCIETY (of Los Angeles County Medical Association) Annual Brennemann Lecture Series, Ambassador Hotel, Los Angeles, November 8 and 9. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.

PACIFIC COAST FERTILITY SOCIETY Tenth Annual Meeting, El Mirador Hotel, Palm Springs, November 9 through 12. *Contact:* Gregory Smith, M.D., secretary, 909 Hyde Street, San Francisco 9.

SAN DIEGO CHAPTER, CALIFORNIA ACADEMY OF GENERAL PRACTICE Fifth Annual Meeting, November 9 through 11, Riviera Hotel, Las Vegas. *Contact:* George H. Burkhart, M.D., 514 Third Ave., Chula Vista.

CALIFORNIA ACADEMY OF GENERAL PRACTICE CONFERENCE ON MEDICAL AUDITS, November 15, 10:00 a.m. to 5:00 p.m., Jack Tar Hotel, San Francisco. *Contact:* William W. Rogers, executive secretary, 9 First Street, San Francisco 5.

CALIFORNIA ACADEMY OF GENERAL PRACTICE CONFERENCE ON MEDICAL AUDITS, November 16, 10:00 a.m. to 5:00 p.m., Huntington-Sheraton Hotel, Pasadena. *Contact:* William W. Rogers, executive secretary, 9 First Street San Francisco 5.

PACIFIC COAST COLLEGE HEALTH ASSOCIATION, November 20 through 22, Claremont Hotel, Berkeley. *Contact:* Henry B. Bruyn, M.D. chairman, Cowell Memorial Hospital, University of California, Berkeley 4.

WESTERN SURGICAL ASSOCIATION, November 29 through December 1, St. Francis Hotel, San Francisco. *Contact:* Walter W. Carroll, M.D., secretary, 700 N. Michigan Ave., Chicago 11.

DECEMBER MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS Seventh Annual Postgraduate Course on Diseases of the Chest, December 4 through 8, 9:00 a.m. to 5:00 p.m. daily, Statler Hilton Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut Street, Chicago 11, Illinois.

POSTGRADUATE COURSE IN CARDIOLOGY, December 5 through 8, Institute for Cardio-Pulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, California. *Contact:* John Carson, M.D., associate program director, Scripps Clinic, La Jolla.

1962 MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Sixth Midwinter Professional Symposium, January 10, Statler Hilton Hotel, Los Angeles. *Contact:* Robert Stivelman, M.D., chairman, Professional Symposium Committee, Los Angeles County Heart Association, 2405 W. 8th Street, Los Angeles 57.

AMERICAN COLLEGE OF SURGEONS Sectional Meeting, Statler-Hilton and Biltmore Hotels, Los Angeles, January 29 through February 1. *Contact:* William E. Adams, M.D., secretary, 40 E. Erie Street, Chicago 11.

FOURTEENTH ANNUAL MIDWINTER RADIOLOGICAL CONFERENCE sponsored by Los Angeles Radiological Society, February 3 and 4, Biltmore Hotel, Los Angeles. Fee: \$25.00 includes two luncheon meetings. Banquet, Saturday evening, Biltmore Bowl, \$7.50 per person. *Contact:* V. G. Mikity, M.D., 2010 Wilshire Blvd., Los Angeles 57.

TUBERCULOSIS AND HEALTH ASSOCIATION OF CALIFORNIA Annual Meeting, El Cortez Hotel, San Diego, February 7 through 10. *Contact:* Mr. Wm. Phraener, coordinator, public relations, 130 Hayes Street, San Francisco.

AMERICAN COLLEGE OF PHYSICIANS ANNUAL SOUTHERN CALIFORNIA Regional Meeting, El Mirador Hotel, Palm Springs, February 16 through 18. Submit abstracts to Walter S. Graf, 3701 Stocker Street, Los Angeles, by Nov. 1, 1961. *Contact:* George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.

PACIFIC COAST SURGICAL ASSOCIATION Annual Meeting, Sheraton Hotel, Portland, Oregon, February 18 through 21. *Contact:* Carleton Mathewson, M.D., Presbyterian Medical Center, San Francisco.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, Evening of March 6 and all day March 7, Statler Hotel, Los Angeles. *Contact:* R. W. Watson, 504 So. Sierra Madre Boulevard, Pasadena.

ANESTHESIA SECTION OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION Seventh Annual Spring Postgraduate Meeting, Statler Hilton, Los Angeles, March 10 and 11. *Contact:* Thomas W. McIntosh, M.D., 686 East Union Street, Pasadena.

COLLEGE OF MEDICAL EVANGELISTS Alumni Postgraduate Convention, March 13 through 15, 1962, Ambassador Hotel, Los Angeles. *Contact:* Kenneth H. Abbott, M.D., general chairman, 316 No. Bailey Ave., Los Angeles 33.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, INC., Biltmore Hotel, Los Angeles, March 21 through 24. *Contact:* Dr. Marion F. Langer, 1790 Broadway, New York 19.

INTERNATIONAL COLLEGE OF APPLIED NUTRITION Annual Convention, Huntington-Sheraton Hotel, Pasadena, March 22 and 23. *Contact:* Donald C. Collins, M.D., secretary, Suite 503, 7046 Hollywood Blvd., Hollywood 28.

AMERICAN ACADEMY OF GENERAL PRACTICE, Las Vegas, Nevada, April 6 through 13. *Contact:* Mr. Mac F. Cahal, executive director, Volker Blvd. at Brookside, Kansas City 12, Mo.

CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION ANNUAL MEETING April 7 and 8, Sir Francis Drake Hotel, San Francisco. April 7: 9 a.m. to 5 p.m. April 8: 9 a.m. to 3 p.m. *Contact:* Helen Goldman, president, 693 Sutter Street, San Francisco.

CALIFORNIA MEDICAL ASSOCIATION Annual Session, Fairmont Hotel, San Francisco. April 15 through 18, 1962. *Contact:* John Hunton, executive secretary, 693 Sutter St., San Francisco 2, or Ed Clancy, director of public relations, 2975 Wilshire Blvd., Los Angeles 5.

CALIFORNIA HEART ASSOCIATION ANNUAL MEETING, Rick-ey's Studio Inn, Palo Alto, May 18 through 20. *Contact:* Brian O'Connell, executive director, California Heart Association, 1370 Mission Street, San Francisco 3.

AMERICAN PUBLIC HEALTH ASSOCIATION WESTERN BRANCH'S Annual meeting, Sheraton-Portland Hotel, Portland, June 4 through 8. *Contact:* Robert E. Mytinger, director, executive office, 693 Sutter Street, San Francisco 2.



THE PHYSICIAN'S *Bookshelf*

DYNAMIC PSYCHIATRY IN SIMPLE TERMS—Second Edition—Robert R. Mezer, M.D., Assistant Professor of Psychiatry, Boston University Medical School, and Associate Visiting Physician in Psychiatry, Massachusetts Memorial Hospitals. Foreword by Harry C. Solomon, M.D. Springer Publishing Company, Inc., 44 East 23rd Street, New York 10, N. Y., 1960. 178 pages, \$2.75.

Dr. Robert Metzger, Assistant Professor of Psychiatry, Boston University Medical School has had years of teaching experience in presenting psychiatry to students of medicine, nursing and social work. In this book, he has put this experience to good use in briefly outlining in simple layman's language, the emotional development of the individual, the classical psychiatric concepts and standard classifications of mental and emotional illness and a critical review of psychological and somatic treatment. His definitions, examples and explanations are clear-cut and easily understandable to the layman or the beginning student to whom psychiatry is all too frequently a hazy muddle of meaningless technical terminology. To the psychiatrically unsophisticated, it is an excellent introductory outline.

FRANK F. TALLMAN, M.D.

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VALVULAR DISEASE OF THE HEART IN OLD AGE—P. D. Bedford, M.D., M.R.C.P., Consultant Physician to the Cowley Road Hospital, Oxford; and F. I. Caird, D.M., M.R.C.P., Medical Registrar; lately Senior House Physician, Cowley Road Hospital, Oxford. Little, Brown and Company, 34 Beacon Street, Boston 6, Mass., 1960. 194 pages, 38 illustrations, \$7.50.

This small volume is a personal account of 3,000 patients, 65 years and over who were admitted to the Geriatric Service of the Cowley Road Hospital, Oxford. The clinical features and prognoses of all valvular diseases observed during this period are discussed in detail. This study is of great importance because it is a prospective study by an obviously qualified physician who attempted to answer many of the questions regarding valvular diseases in the aged, and many of his findings are of considerable interest.

The author commented that a consistent clinical manifestation of diseases of the aged is mental confusion, and this is true even in heart disease. He emphasizes a variety of clinical observations such as the value of orthopnea for distinguishing pulmonary from cardiac dyspnea, the relative importance of cough in cardiac failure and the lack of significance of the state of the radial vessel wall in the assessment of heart disease. Atrial fibrillation is a very important prognostic factor in congestive failure in the elderly and is a turning point in the life history of rheumatic heart disease, even after the age of 65. The author is convinced that mitral insufficiency is the dominant hemodynamic lesion in the majority of elderly patients.

Details are given of the history, physical and autopsy findings and diagnostic difficulties in pulmonary heart disease, aortic stenosis, aortic incompetence and syphilitic aortic incompetence. Chapters on the natural history of each of these diseases are of considerable value and the

complications in his 419 patients are discussed with considerable insight.

Prognoses are discussed and illustrated with a variety of significant tables providing some of the best data of which the reviewer is aware on the valvular diseases. The "life table method" and the comparison of the actual with the expected mortality is discussed in detail in the appendix. There is a first class bibliography for those who wish to pursue the subject further.

The monograph can be recommended highly.

MAURICE SOKOLOW, M.D.

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TEXTBOOK OF PATHOLOGY, A—An Introduction to Medicine—7th Edition, Thoroughly Revised—William Boyd, M.D., Dipl. Psychiat., M.R.C.P. (Edin.), Hon. F.R.C.P. (Edin.), F.R.C.P. (Lond.), F.R.C.S. (Can.), F.R.S. (Can.), LL.D. (Sask.), (Queen's), D.Sc. (Man.), M.D. (Oslo). Professor Emeritus of Pathology, The University of Toronto; Visiting Professor of Pathology, The University of Alabama; Formerly Professor of Pathology, The University of Manitoba and the University of British Columbia. Lea & Febiger, 600 South Washington Square, Philadelphia 6, Pa., 1961. 1370 pages, 792 illustrations and 20 plates in color, \$18.00.

Dr. Boyd has rewritten this well-known textbook in line with present-day thinking of pathologic processes as more than morphologic patterns. He deals with them as complex disorders involving chemical and functional changes that express themselves through alterations in tissue structure. This approach has resulted in greater emphasis upon principles of disease than in previous editions, although regional pathology still makes up about two-thirds of the book.

The material covered has been expanded, largely through the consideration of physiological aspects and of the relationship of lesions to symptoms of disease. Several new chapters present topics of recently acquired importance, such as immunity and hypersensitivity, ionizing radiation, and medical genetics. The illustrations, including many electron micrographs, are derived mostly from photographs and in general depict their lesions successfully. The book has been set in double column type which is easy to read.

As in his other writings on pathology Dr. Boyd has used his artistry with words to make vivid descriptions and comments that provide interesting reading. The student of medicine at any stage of his development will find this book enjoyable as well as informative. The author has expressed his own awareness of his problem as a single individual of providing an authoritative account of so many diverse areas of medical knowledge as are encompassed by modern pathology. In this difficult task he has succeeded in a large measure through an effort to include all important new advances and to merge them with existing concepts. This has led in places to speculation that is difficult to distinguish from more generally accepted conclusions but in most fields the discussion provides a good survey of current knowledge about disease.

ALVIN J. COX, M.D.

NEUROMUSCULAR DISORDERS (The Motor Unit and Its Disorders). Proceedings of the Association for Research in Nervous and Mental Disease, Volume XXXVIII, December 12 and 13, 1958, New York, N. Y. Raymond D. Adams, M.D., Lee M. Eaton, M.D., and G. Milton Shy, M.D., editors. The Williams & Wilkins Company, Baltimore 2, Maryland, 1960. 813 pages, \$20.00.

This monograph consists of 28 papers, specially prepared for publication, but based on oral presentations at the 38th annual meeting of the Association for Research in Nervous and Mental Diseases, in December, 1958. While the authors are predominantly American, Puerto Rican, Danish, Swedish, and English neurology are represented.

The subject, Neuromuscular Disorders, is dealt with in terms not only of the muscle cell, but also of the myoneural junction and the lower motor neurone. The major headings are: basic structure and function of the motor unit, experimental pathology, basic approach to clinical problems and experimental techniques of promise in the study of neuromuscular disorders. While 28 papers of an average length of less than 30 pages, each dealing with a separate, though related subject, do not allow an exhaustive presentation of each subject, the preparation and documentation is excellent, and the bibliography extensive.

Though neurochemical, neurophysiological and neuropathological approaches are presented, the design is primarily for the benefit of the clinical investigator and physician; giving an up-to-date account, not only of clinical states, but also of recent advances in biological and physical investigations and investigative methods. Such an account has been wanting in this field with its many unsolved disease entities.

This monograph seems an excellent reference source for any general physician, or particular clinical investigator. It is an ideal volume for browsing through to find portions of personal interest—but once this is done, there is liable to occur a need to read some more.

I consider this monograph an excellent contribution to the neurological literature, but its impact should be felt well beyond the confines of orthodox neurology.

DONALD MACRAE, M.D.

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RESPIRATION—Physiologic Principles and Their Clinical Applications. German edition written by P. H. Rossier, A. A. Bühlmann, and K. Wiesinger (Department of Medicine, Zurich University Medical School) and published under the title of *Physiologie und Pathophysiologie der Atmung* (newest second edition) by Springer-Verlag, Berlin-Göttingen-Heidelberg. Edited and Translated from the German Edition by Peter C. Luchsinger, M.D., Chief of Pulmonary Physiology Research Laboratory, Mt. Alto Veterans Administration Hospital, Washington, D. C.; Assistant Professor of Medicine, Georgetown University School of Medicine, Washington, D. C.; and Kenneth M. Moser, M.D., Head of Chest and Contagious Disease Branch, U. S. Naval Hospital, National Naval Medical Center, Bethesda, Md.; Instructor in Medicine, Georgetown University School of Medicine, Washington, D. C. C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo., 1960. 505 pages, \$15.75.

Within present-day trends of integrating physiological and biochemical principles into the practice of clinical medicine, respiratory physiology has only recently become a field of interest of the clinician. Only a decade ago "pulmonary function laboratories" were virtually nonexistent, except as domains of pure research. Today no important medical center can afford to omit this facility. Consequently, several books dealing with pure and applied physiology of the respiration appeared recently. This volume, as indicated above, is a translation of a textbook written by a Swiss team which has appeared in two German language editions within three years. Yet, it is more than a routine translation of a book written in another language; one of the American editors and translators of the book has worked with the

Swiss team and collaborated in their writing of the two original editions. Drs. Luchsinger and Moser have re-edited the book, emphasizing viewpoints prevalent in this country and commenting on others. They included tables comparing the "Zurich terminology" and the "American terminology" to make it easier for the American reader to follow. As a result of their efforts they came out with an excellent volume, perhaps the most comprehensive in the field. The book consists of four sections: (1) Normal physiology of the respiration; (2) investigative methods in pulmonary function; (3) pathophysiology of respiration and (4) pulmonary insufficiency in clinical practice. Appended to the book is a section on bibliography 80 pages long, wherein articles are listed alphabetically by authors in short sections arranged by subjects and following the same order as that of the text. The text is illustrated by numerous tables and diagrams and the quality of print and reproduction is high.

The presentation of the text is clear and understandable. The mathematics is relatively easy to follow. Methodology and apparatus are described in sufficient detail to be a valuable guide for those engaged in pulmonary function work. To the clinician section four is of most interest. Chapters on emphysema, asthma, cor pulmonale, tuberculosis and other pulmonary diseases cover the field well, contain up-to-date information regarding etiology, diagnosis and treatment. The last three chapters are devoted to subjects not often covered in books of this type: influence of nonpulmonary factors on pulmonary function (obesity, electrolyte disturbance, anesthesia, pharmacological agents); high altitude breathing, and pulmonary function of athletes. In general, this volume is unquestionably an important contribution to the subject. It is recommended not only to "pulmonary function" specialists and to investigators, but also to clinicians interested in the broad field of diseases of the chest.

A. SELZER, M.D.

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LAENNEC—HIS LIFE AND TIMES—Roger Kervran, M.D. Translated from the French by D. C. Abrahams-Curiel. Pergamon Press, Inc., 122 East 57th Street, New York 22, N. Y., 1960. 213 pages, \$3.50.

Both author and translator have done an excellent job in this book about the frail consumptive, Laennec, who accomplished so much in spite of his disease. Most of those who know about his work are unaware of his Breton origin, his youth at the tragic time of the Revolution and the difficulties with which he had to cope in coming to Paris. Laennec's life as a person is woven into his medical life, and the story of his final scientific triumph, his book on Mediate Auscultation is once more presented in vivid and sympathetic style. Laennec died in 1826 at the age of forty-five, in the year his great book appeared, which has left its mark for all time on the subject of physical diagnosis and pulmonary tuberculosis.

ARTHUR L. BLOOMFIELD, M.D.

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ARTHUR E. HERTZLER: THE KANSAS HORSE-AND-BUGGY DOCTOR—Edward H. Hashinger, Professor Emeritus of Medicine and Gerontology and Lecturer in the History of Medicine, University of Kansas School of Medicine. Ninth Series of the Logan Clendening Lectures on the History and Philosophy of Medicine. University of Kansas Press, Lawrence, Kansas, 1961. 37 pages, \$2.00.

This is a very short biography of a famous American physician which unfortunately gives little information of his personality and accomplishments. It includes Dr. Hertzler's bibliography and a few photographs of the setting in which he lived and worked.

DWIGHT L. WILBUR, M.D.

ADVANCES IN BLOOD GROUPING—Alexander S. Wiener, M.D., F.A.C.P., Senior Bacteriologist (Serology) to the Office of the Chief Medical Examiner of New York City, Adjunct Associate Professor in the Department of Forensic Medicine of the N. Y. U. Postgraduate Medical School, and Attending Immunohematologist to the Jewish and Adelphi Hospitals of Brooklyn, N. Y. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 549 pages, \$11.00.

This is a very comprehensive and thorough coverage of advances in blood grouping. The author has done an excellent job in selecting both the authors and the matter included in their articles. This book should serve as a very ready source of reference on many subjects in this very complicated field of medicine. Anyone interested in blood grouping and the problems associated with it, should have this book at hand.

JOHN S. LAWRENCE, M.D.

* * *

GENERAL ANAESTHESIA—Volumes 1 and 2—Edited by Frankis T. Evans, M.B., B.S., F.F.A.R.C.S., D.A., Anaesthetist, St. Bartholomew's Hospital, St. Mark's Hospital for Rectal Disease, and Royal Masonic Hospital, London; and Cecil Gray, M.D., F.F.A.R.C.S., D.A., Professor of Anaesthesia, University of Liverpool. Volume 1—Basic Principles; Volume 2—Techniques, Special Fields and Hazards. Butterworth, Inc., 7235 Wisconsin Avenue, Washington, D. C., 1959. 962 pages, plus indices, \$29.50 per set.

This text is published in two volumes. Since there is no clear distinction from the standpoint of content, it appears that the separation into two units is due to the bulk of the material presented.

The purchaser of this text will need to ask himself whether or not he wishes to have one text provide him with answers (of varying depth) to many aspects of the practice of anesthesia that are essential but nevertheless peripheral to problems arising from the usual practice of anesthesia. For example, the text contains much material from the basic sciences written by competent men in their respective fields of anatomy, physiology, neurology, etc. This material is certainly pertinent to the sound practice of anesthesia, but the reviewer wonders if it needs to be included in relative detail when the same material is available in standard texts of anatomy, physiology, etc. The reviewer believes that it could be condensed significantly and the association with anesthesia made more prominent without detracting from the usefulness of the material. More than one hundred pages of basic neuroanatomy and physiology with limited effort to relate it to anesthetic practice seems a bit out of proportion.

As a matter of fact, the reviewer is somewhat concerned about the balance of material in the text. For example, the section on equipment is no longer than the sections on controlled hypotension and hypothermia, and there could be debate about the relative frequency of use of anesthetic apparatus and rather special technics such as hypothermia and hypotension. As so often happens in a text to which there are many contributors, the volume of material reflects the interest of the contributor and not necessarily the contribution to the total perspective.

There are several chapters concerned with anesthesia for special organ systems. For example, there are chapters on anesthesia for abdominal surgery, neurological surgery, pediatric surgery, etc. The reviewer admits to a distinct bias, but in a large two-volume text, it seems that fundamental principles could be sufficiently well established to make it unnecessary to detail the management of anesthesia in all except a few special circumstances.

The reviewer does not want to create the impression that the text is unworthy. The contributors are of high quality, the authors are exceedingly well qualified to prepare a text,

the material is well written (for the most part), the print is easily read, the illustrations are liberal and excellently reproduced and there is good organization of the material within the text. For those who are looking for a text that will be a single source for much background information as well as anesthetic practice itself, this text is certainly worthy and will undoubtedly serve as a convenient single reference source for many questions. The bibliography for many of the chapters is extensive, pertinent and current.

STUART C. CULLEN, M.D.

* * *

INSTRUCTIONAL COURSE LECTURES—Volume 18, 1960—The American Academy of Orthopedic Surgeons. Fred C. Reynolds, M.D., St. Louis, Missouri, Editor. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Missouri, 1960. 421 pages, \$18.50.

For the past 17 years the American Academy of Orthopedic Surgeons, through its Instructional Course Committee currently headed by Dr. Reynolds, has published selected papers from a yearly series of educational lectures given at the time of its annual meeting for the benefit of practicing orthopedists throughout the country who desire review of specialized subjects within the fields of orthopedics.

The previous volumes have been enthusiastically received and this should be no exception. The current publication contains many excellent subject reviews which should appeal to even the most sophisticated reader. The book itself, prepared by the Mosby Company, is handsome enough, beautifully illustrated and attractively got-up in large format paper.

The contents are divided into five major headings: Fractures, bone graft surgery, children's orthopedics, disability evaluation and athletic injuries. Of these the section on children's orthopedics is easily the most notable with comprehensive discussions by Green on control of bone growth, Blount on unequal leg length, and Aitken on the child amputee. Of the remaining portion, several papers will be of value to resident surgeons in training and for review by practicing surgeons. Fractures of the elbow in children by Fahey, principles of bone graft surgery by Herndon and surgical approaches to the cervical spine by Robinson are notable.

A volume of this sort attracts little that is new or controversial. There has been added this year, however, a series of two papers on diagnosis, treatment and prognosis of vascular injuries in the extremities which clearly and concisely reviews statistics of extremity survival and technique for arterial repair.

Controversially, a difference of opinion is pointed up in the section on disability evaluation where Bateman, Eaton and Kessler, backing the stand taken by the Committee of Medical Rating of Physical Impairment of the A.M.A., recommend that disability evaluation by physicians be limited to a description of physical impairment, while McBride feels that medical authorities should be qualified to assess both physical impairment and the more shadowy factors of motivation, constitutional reaction to injury and job adaptability which in sum total make up "disability." This divergence of thought regarding the right of the physicians to go beyond the field of medicine has ethical implications not easily resolved. It is hoped that the academy will be able to help clarify the role of the orthopedist in disability evaluation.

This effective review will be of permanent value to any hospital library associated with an orthopedic residency program and of considerable value to any practicing surgeon who does not have ready access to such a library. It will be of limited value to physicians outside the field of orthopedic surgery.

EDWARD H. WILSON, M.D.

CARDIOVASCULAR DYNAMICS—Second Edition— Robert F. Rushmer, M.D., Professor of Physiology and Biophysics, University of Washington Medical School. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 503 pages, \$12.50.

The second edition of Rushmer's excellent book brings together under a new and more appropriate title much of the basic physiology and biophysics essential to understanding cardiovascular disease. Despite the change in title, the character of the book remains the same and the most notable changes have been the expansion and reorganization of various sections to include newer information. This is especially apparent in the sections on cardiac output and peripheral vascular control and undoubtedly reflects the author's area of primary interest.

The book is replete with many clear and pertinent diagrams which greatly clarify the subject matter. Specific reference in the text to published reviews of various aspects of the subject is of considerable value to the reader who wishes to pursue the subject more deeply. The section on electrophysiology is well done and adds to the completeness of the book. Relatively little attention has been given to the dynamic aspects of congenital heart disease and the physiological basis of cardiac therapy; this is especially notable in the light of the considerable developments that have taken place in this area since the last edition of the book.

One minor criticism is that the bibliography is relatively incomplete if the author's own work is eliminated.

The book is very readable, clear and thought-provoking. It is only slightly larger than the first edition and is highly recommended to physicians who wish to understand the fundamental bases for the modern concepts of cardiovascular disease.

MAURICE SOKOLOW, M.D.

* * *

NEURORADIOLOGY WORKSHOP—Volume 1—Scalp, Skull and Meninges—Leo M. Davidoff, M.D., Active Consultant Neurosurgeon, Montefiore Hospital; Professor and Chairman, Department of Neurosurgery, Albert Einstein College of Medicine, Yeshiva University, New York; Harold G. Jacobson, M.D., Chief, Division of Diagnostic Radiology, Montefiore Hospital; Professor of Clinical Radiology, New York University School of Medicine, New York; and Harry M. Zimmerman, M.D., Chief, Division of Laboratories, Montefiore Hospital; Professor of Pathology, College of Physicians and Surgeons, Columbia University, New York. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 256 pages, \$16.50.

This monograph is somewhat of a departure from conventional texts. It consists essentially of the edited reports of the weekly conference of the neurology and neurosurgery staffs held in the department of radiology at the Montefiore Hospital. The dramatis personae include the chiefs of neurosurgery, radiology, pathology and neurology at that and at some of its associated institutions.

Following an excellent introduction which deals with contrast studies of central nervous system structures, there is a brief chapter on craniocerebral tumors, and then two long chapters dealing with a series of case reports, adequately illustrated and discussed.

There are fourteen case reports of lesions of the scalp and skull, and twenty-eight case reports of meningiomas.

There is one paragraph in the introduction which bears reprinting in full: "There is an unhappy tendency nowadays when pneumoencephalography, angiography and myelography are so easily available, to overlook the very valuable contributions toward diagnosis that can be made by a *careful study of the plain roentgenograms* of the skull and spine. It is easy to fall into such practices, and even when for the sake of completeness plain roentgenographic studies are made preliminary to special investigations, the plain

films are sometimes not interpreted or the report is not yet available to the clinician before he goes ahead with more definitive studies. We would very strongly urge against this practice and, except in emergencies, would recommend that appropriate views, including stereoscopic studies, be made and meticulously reviewed before further investigation is undertaken. If this is done, it is safe to say that in a considerable number of cases, further studies with contrast media may become unnecessary or, if still desirable, may prove confirmatory of diagnoses arrived at through examination of the plain roentgenograms."

The authors then go on to emphasize that in the United States the plain film studies are best made by standard stereoscopic PA, AP, lateral and occipital views of the skull. Under special circumstances these studies are augmented by such additional views as are indicated. However, the standard set of four stereoscopic pairs is recommended as a preliminary in all brain tumor suspects. With this your reviewer heartily agrees.

There is an entertaining section on the matter of "Radiological and clinical correlations." Since a good radiologist is also a clinician, the terms are not well met. What the authors mean is "Should radiological clinicians and bedside clinicians consult on these cases?" The answer obviously is "Yes." The general radiologist can maintain a competent degree of skill in the interpretation of a majority of central nervous system lesions suitable for radiologic study. There is of course, a good place for a specialist in neuroradiology in very large centers, but the preferred arrangement for the majority of hospitals and communities in this country is unquestionably one in which the general radiologist consults with the neurologist or neurosurgeon in the matter at hand.

The illustrations are, fortunately, in negative form, similar to the original roentgenograms. However, many have been "doctored" by the method known as logotronics. This tends to increase the contrast to an undesirable degree and, at least in some instances, to decrease the detail. The text is clear and there is a brief index. References are kept to a minimum.

L. H. GARLAND, M.D.

* * *

THE CHOICE OF A MEDICAL CAREER—Essays on the Fields of Medicine, edited by Joseph Garland, M.D. SC.D. (HON.), editor, New England Journal of Medicine; Consultant Editor, British Practitioner; and Joseph Stokes III, M.D., Associate in Preventive Medicine, Harvard Medical School; Associate Editor, New England Journal of Medicine. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 231 pages, \$5.00.

This series of excellent articles on "The Choice of a Medical Career" by prominent men in American medicine really adds little to what has often been said. The controversy about basic science vs. "clinical" medicine, the art of practice and the patient as a person are frequently touched on by the various essayists, and the advantages of the different branches of medicine are supported by specialists in each field. Everyone seems a little bit on the defensive about the "practice" of medicine, as he may well be, these days, when the pendulum has swung far to one side and the "basic scientists" in medical schools are in the saddle. Few any longer seem to accept the view that both fundamental scientists and clinicians with a wide experience of disease and a knowledge of how to handle people can co-exist to advantage in a medical school, and both serve a useful purpose. *Delenda est Carthago.*

This little book can however certainly be read to advantage by prospective medical students; it contains much wisdom and not a little interesting historical material.

ARTHUR L. BLOOMFIELD, M.D.

PSYCHOTHERAPISTS IN ACTION—Exploration of the Therapist's Contribution to the Treatment Process—Hans H. Strupp, Department of Psychiatry, School of Medicine, University of North Carolina, Chapel Hill. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1960. 338 pages, \$8.75.

The book describes in detail a study of the psychotherapeutic process with particular emphasis on the operations of the psychotherapist. Strupp, using a sound film of an initial interview with a patient, obtained responses from 237 psychotherapists of markedly varying training and experience. Their attitudes toward the patient, their diagnoses, their suggestions for dealing with the material in the interview, their interpretations, their understanding of the dynamics of the case and their goals of treatment were obtained by the use of a questionnaire. An analysis of the therapeutic techniques recommended was made in relation to the therapist's personality, training and experience.

The process by which the therapist arrives at his clinical judgments and evaluations about a patient is explored and related to specific treatment recommendations and planning. The varying ways in which different therapists are influenced by a particular patient is clearly shown, as is the effect this has on his ideas about the type of therapeutic relationship he would plan to evolve.

The author is aware of the limitations of his method of investigating the psychotherapeutic process, but obtained sufficient data to support the already generally accepted thesis that therapists cannot be treated as interchangeable units with techniques and practices that are roughly identical. There is tremendous difference between therapists, and these differences play significant roles in both the goals and techniques (and results) of therapy.

The book will be of interest to those who are interested in a careful examination of psychotherapy. The method of investigation employed represents a distinct contribution.

NORMAN Q. BRILL, M.D.

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MEDICINE AS AN ART AND A SCIENCE—A. E. Clark-Kennedy, M.A., M.D. (Cantab.), F.R.C.P. (London), Fellow of Corpus Christi College, Cambridge, Consulting Physician to the London Hospital and formerly Dean of the Medical School; and C. W. Bartley, M.A., D.M. (Oxon.), M.D. (McGill), M.R.C.P. (London), Physician to the Lambeth Hospital. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1960. 425 pages, \$6.25.

A. E. Clark-Kennedy has been concerned with the interrelationships of the art and science of medicine for a long time. In 1947 his book entitled "Medicine" examined all phases of the subject and gave the reasons and the reasonings for his belief that a true physician must treat the soul as well as the body of his patient. The present volume, published jointly with T. W. Bartley and entitled "Medicine as an Art and a Science" pursues this thesis further.

This is not a textbook but a relatively short volume, directed primarily towards the needs of the beginner, which one can read without too much mental indigestion. It may serve as a guide to more detailed and comprehensive textbooks in their different fields. The approach is based on the incontrovertible and yet neglected fact that diseases are not things which exist independent from the patient who suffers from them, but are transient or progressive alterations in individual men, women and children. (All diseases must be due to reactions between an individual and his environment but we talk about diseases as if they exist per se.) The authors have attempted to paint in outline the whole picture of the natural phenomena of human disease in the hope of building a sense of perspective essential to the physician.

The presentation is in five parts: (1) The patient and his disease; (2) Primary functional disorders; (3) Organic

disease; (4) Clinical diagnosis; (5) Principles of prevention and treatment. The reviewer wonders at such things as the odd lumping together of most metabolic and endocrine conditions under "unexplained disorders of physical function" and the advocacy of antibiotic therapy without a preceding culture, but he feels that the authors have done a generally good job.

This is an interesting book which emphasizes for the student or physician fundamental truths which are sometimes too easily forgotten. It is recommended to both as ancillary reading.

EDGAR WAYBURN, M.D.

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IMPROVING PATTERNS OF LANGUAGE USAGE—Ruth I. Golden, English Department, Detroit Central High School. Wayne State University Press, Detroit 2, Michigan, 1960. 196 pages, \$2.95.

This is a report on intensive research into language of three high schools in Detroit with a school population which consists predominantly of Negro students. The standard of language expression is analyzed in relation to the socio-economic level of the students. The progress of this level depends on more widely accepted speech patterns. To be accepted by middle-class standards language has to be regarded as a key to that acceptance.

With the increasing Negro population in California this problem besides being of great social importance is of special interest to the physician who handles health problems of Negroes. The pattern of nonstandard expressions still used by so many high school students gives the false impression of ignorance and lends support to prejudice. Instead one has to keep in mind that Negro English contains archaic survivals of good old English. This book describes how people more or less isolated from the central development always retain cultural characteristics that the main body loses. Tennessee mountaineers were geographically, Negroes more socially isolated. Since there is no biological basis for "Negro dialect," Negroes are as capable of pronouncing English words as whites are.

Many Negro students use a "second language" to which they revert as soon as they are out of the classroom. This more comfortable common language they share as compensation for injustices. Lack of speech proficiency contributes to the failure of many Negro students to enter college. The resulting frustration does not contribute to better human relations. The results of this research are of great importance for the interpretation of oral communication with Negro patients in psychiatry and psychology.

PAUL J. MOSES, M.D.

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HOUSE OF HEALING—The Story of the Hospital—Mary Risley. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, N. Y., 1961. 288 pages, \$4.50.

This 288-page book, written for the layman, traces the evolution of the hospital from the early temples of healing to the present modern hospital medical centers. The practice of medicine in ancient Sumer and Babylon, Egypt, Greece, Rome, and Arabia are portrayed. The development of the Monastic hospitals, the various patrons of hospitals, and the role of cities and governments in hospitals are discussed. The book concludes with chapters on the development of hospitals in the United States and the future role of hospitals. The index appears to be quite adequate. The continuity of thought is occasionally disrupted by incorporation of interesting facets of history not directly correlated to the subject matter. This book will contribute but little to the busy physician's library.

AIR WE BREATHE, THE—A Study of Man and His Environment—Edited by Seymour M. Farber, M.D., Chief, University of California Tuberculosis and Chest Service, San Francisco General Hospital; Assistant Dean, Department of Continuing Education in Medicine and the Health Sciences, University of California School of Medicine and University Extension, San Francisco, California; and Roger H. L. Wilson, M.D., Assistant Clinical Professor of Medicine; Assistant Head, Medical Extension, University of California School of Medicine and University Extension, San Francisco, California. In collaboration with John R. Goldsmith, M.D., and Mello Pace, Ph.D., members of the Program Committee. Charles C. Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Ill., 1961. 414 pages, \$14.00.

"The Air We Breathe" is the enticing title of a collection of papers presented at a symposium at the University of California Medical School Center in San Francisco. It should interest the practicing physician, those of many disciplines of science and most of all laymen concerned with the air we breathe. Because of the wide gamut of information and the variety of the subject matter presented, it is to be doubted if any one person is sufficiently knowledgeable in all facets of this subject to be a completely capable reviewer. The undersigned is not so endowed.

In addition to the aforementioned editors and collaborators, 27 internationally recognized contributors aid in this comprehensive multidisciplinary effort. The book is divided into the following four sections: (1) The normal atmosphere and its variations; (2) The air pollution problem of industry; (3) Urban living and air pollution, smog and fog; and (4) Specific problems, such as "The effect of dust on the human lung" and "environment and cancer."

The first six chapters of Section I are highly scientific, dealing with the dynamic nature of the atmosphere, with stress and human action, with factors of capsule climates, that is, underseas and space and man in his normal atmosphere. The final chapter of this section is a delightful, easily read discussion on "man made maladies." The author of this chapter introduces his subject with the statement—"although we are specially interested in maladies of medical interest, there are also maladies of economic interest and the two are interconnected."

Chapter 8 of Section II deals with factors concerned with the particle size of dust, its inhalation and retention within the lungs or its clearance.

Chapter 9—"The immediate and long-term effects of chemical irritants on man" holds special interest for this reviewer. Limitation of space forbids the length of discussion it deserves. The opening portion of this chapter complements the preceding chapter in regard to factors of inhalation. Nine tables are used as ancillary to the content of the text. All are excellent and illuminating. However, Tables 6 and 7 may be misleading unless attention is paid to the script. The tendency of a few investigators to relate a chemical exposure to pulmonary cancer demands the ultimate in clinical judgment and especially the application of "clinical epidemiology" so ably presented at the conclusion of this chapter.

The curious, inquiring and apprehensive mind of physicians and laymen alike will find some answers to the effects of airborne radiation. Even though presented with scientific terminology, it is not beyond the ken of the untutored in this field.

Section III presents the disaster potential of community air pollution, the automobile and smog, the failure in metropolitan planning and a panel discussion on what we can do to make our cities more habitable. This portion of the

book provides valuable information for those areas of the United States only recently realizing that the smog problem is not confined to southern California.

The final chapters of this book are devoted to "specific problems" involving physiological and biological factors of air pollution and "lung cancer." The chapter on "smoking in relation to lung cancer" is provocative.

To assume that "The Air We Breathe" is just another run of the mill discussion on smog would be erroneous. This reviewer believes that there has been no other book written on this subject that is so complete as well as so basic in facts. Doctors Seymour M. Farber and Roger H. L. Wilson are to be congratulated on the arrangement of this symposium as well as the editing of this valuable volume.

R. T. JOHNSTONE, M.D.

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HEART SOUNDS AND MURMURS—A Clinical and Phonocardiographic Study—P. A. Ongley, Consultant in Pediatrics, Mayo Clinic, Rochester, Minnesota; Howard B. Sprague, Board of Consultation, Massachusetts General Hospital; M. B. Rappaport, Former Head of Department of Electrophysiologic Research, Sanborn Company, Waltham, Massachusetts; and A. S. Nadas, Cardiologist, Children's Hospital, Boston, Massachusetts. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1960. 360 pages, \$9.75.

This monograph is a very good, up-to-date account of the important subject of heart sounds and murmurs written by experts in pediatric and adult cardiology, as well as by an electrophysicist. The book begins with an excellent history of the important contributions to clinical auscultation, a history of the stethoscope and a very good account of the human ear in auscultation and the physical principles which permit the reader to understand phonocardiography. The relationships among electrocardiography, apex cardiograms and the venous pulse in orientation of phonocardiograms are most helpful.


The authors then proceed with sections on the normal heart sounds, gallop rhythms, splitting of heart sounds, systolic and diastolic murmurs and individual valvular abnormalities. The volume closes with short chapters on various congenital cardiac defects, and the arrhythmias.

In general the text is well done and reflects modern concepts of the mechanisms and clinical value of auscultatory findings. The physiological correlations could be expanded, but probably were kept within bounds deliberately. The bibliography is particularly complete with respect to the early historical research; it is less complete with respect to later studies during the last two to seven years, especially with regard to the English papers, notably those of Wood, Leatham, Mounsey, Bridgen, as well as the South African workers, Vogelpoel and Schrire. The bibliography on the congenital defects is quite scanty.

The major defects were few, one being the relatively poor illustrations of the cardiac murmurs. This defect is sometimes due to the original, but may be in the reproduction. The account of mitral and tricuspid insufficiency is relatively limited and the important work of Shillingford is not mentioned, particularly with respect to the confusion which may result between insufficiency of these two valves.

In general the defects are minor and the book can be highly recommended to the practicing physician as an authoritative, contemporary work on heart sounds and murmurs with one of the best accounts of the physical and acoustical principles involved.

MAURICE SOKOLOW, M.D.



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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.

BONE CHANGES IN LEPROSY—Vilh. Møller-Christensen, M.D. Ejnar Munksgaard, International Booksellers and Publishers, Ltd., 6 Norregade, Copenhagen, Denmark, 1961. 51 pages, no price.

CIBA FOUNDATION STUDY GROUP NO. 7—Virus Meningo-Encephalitis—in honour of Prof. K. Todarovic. G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P. and Margaret P. Cameron, M.A., editors for the Ciba Foundation. Little, Brown and Company, 34 Beacon Street, Boston, Massachusetts, 1961. 120 pages, \$2.50.

CURRENT PSYCHIATRIC THERAPIES—AN ANNUAL PUBLICATION—Vol. 1-1961, edited by Jules H. Masserman, M.D., Professor of Neurology and Psychiatry, Northwestern University and Director of Education, Illinois State Psychiatric Institute, Chicago. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 246 pages, \$7.50.

ESSENTIALS OF NEUROSURGERY FOR STUDENTS AND PRACTITIONERS—Sean Mullan, M.D., Associate Professor of Neurosurgery, The University of Chicago. Springer Publishing Company, Inc., 44 East 23rd St., New York 10, N. Y., 1961. 273 pages, \$6.75.

GOOD-BYE, DOCTOR ROCH—André Soubiran (translated by Helen Sebba). Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1961. 331 pages, \$4.50.

HUMAN ADRENAL GLAND—Louis J. Soffer, M.D., F.A.C.P., Attending Physician and Head of Endocrinology, The Mount Sinai Hospital, New York City; Ralph I. Dorfman, Ph.D., Director of Laboratories, Worcester Founda-

tion for Experimental Biology, Shrewsbury, Mass.; and J. Lester Gabrielove, M.D., F.A.C.P., Associate Attending Physician, The Mount Sinai Hospital, New York City. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1961. 591 pages, \$18.50.

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RELIEF OF SYMPTOMS—Second Edition—Walter McDell, M.D., F.A.C.P., Director of Clinical Pharmacology and Associate Professor of Pharmacology, Cornell University Medical College, New York, N. Y. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo., 1961. 374 pages, \$11.50.

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STERILITY—OFFICE MANAGEMENT OF THE INFERTILE COUPLE—Edward T. Tyler, M.D., Chairman, Postgraduate Infertility Courses, University of California (Los Angeles) Medical Extension Division; and Director, The Tyler Clinic, Los Angeles, Editor. McGraw-Hill Book Company, Inc. (The Blakiston Division), 330 West 42nd Street, New York 36, N. Y., 1961. 425 pages, \$12.50.

TRAVELER'S GUIDE TO GOOD HEALTH—Colter Rule. Paperback Edition. Dolphin Books, Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1961. 240 pages, 95 cents.

NEONATAL VARICELLA—M. D. Readett and C. McGibbon. *Lancet*—Vol. 1:644 (March 25) 1961.

Two cases of neonatal varicella are reported. The infection was extrauterine. The mothers had normal immune serum, but had failed to pass on adequate passive immunity to the fetus.

* * *

CHROMOSOMES FOR BEGINNERS—B. Lennox. *Lancet*—Vol. 1:1046 (May 13) 1961.

The author presents a review (without references) of methods and results of new methods of human chromosome analysis. The review is designed to make them intelligible to those who have failed to keep up with the recent literature on chromosomes.

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REFERENCES AND REVIEWS

TRANSMISSION OF POLIOVIRUSES, II. SPREAD OF ATTENUATED POLIOVIRUS TYPE III IN A PARTIALLY IMMUNIZED SCHOOL POPULATION—P. F. Wehrle, F. Hagen, and O. Carbonaro. Pediatrics—Vol. 27:755 (May) 1961.

An attenuated poliovirus Type III strain, Leon 122a,b, was fed to six members of a summer recreational school program in a small central New York community. Transmission of this virus occurred to only 3 of 25 family contacts of these 6 children and to only 1 of 13 close school associates. In addition, 5 more casual school and neighborhood contacts became infected during the study period. Thus, only 9 of 100 family and school contacts of these school children became infected during a five-week study period. The results have been interpreted to suggest that the attenuated poliovirus Type III strain Leon 12a,b is less invasive in open populations than the natural polioviruses previously observed in this population.

* * *

TRANSMISSION OF POLIOVIRUSES, III. PREVALENCE OF POLIOVIRUSES IN PHARYNGEAL SECRETIONS OF INFECTED HOUSEHOLD CONTACTS OF PATIENTS WITH CLINICAL DISEASE—P. F. Wehrle, O. Carbonaro, P. A. Day, J. P. Whalen, R. Reichert, and B. Portnoy. Pediatrics—Vol. 27:762 (May) 1961.

Isolation of polioviruses from pharyngeal secretions of previously immunized household contacts of poliomyelitis cases is accomplished less frequently (3 of 23 studied) than among those not previously immunized (16 of 43 studied). This is consistent with previous data suggesting a greater

influence of circulating antibody on poliovirus infection at that site. This is also consistent with antibody persistence or rapid recall upon infection following immunization with formalin inactivated vaccine.

* * *

FAMILIAL IDIOPATHIC OSTEOARTHROPATHY—G. Currarino, R. C. Tierney, R. G. Giesel, and C. Wehl. Amer. J. Roentgenol.—Vol. 85:633 (April) 1961.

The histories of two female children (siblings) with idiopathic osteoarthritis (or hypertrophic osteoarthritis) are presented. In addition to the usual features of the disease, both patients showed marked congenital enlargement and delayed closure of the cranial sutures, and had bouts of severe periostitis and eczema in infancy and early childhood.

* * *

SURGICAL TREATMENT OF DUODENAL ULCERATION IN TWO HEMOPHILIACS—D. A. Handley, N. S. Painter, and M. R. P. Hall. Lancet—Vol. 1:482 (March 4) 1961.

Animal antihemophilic globulin (AHG) concentrate prepared from porcine plasma was successfully used to control bleeding in two hemophilic patients who underwent gastrojejunostomy and selective vagotomy for duodenal ulceration. AHG was given intravenously preoperatively and daily postoperatively; blood AHG levels of over 30 per cent were aimed at. The dose was assayed for activity before use, and the size of the dose was determined from preceding levels. In both patients the treatment was discontinued after the ninth day—in one because of anaphylaxis, in the other because of failure to respond to large doses of the material. The period of treatment may be prolonged by using bovine AHG, human AHG, fresh blood, or plasma. Fresh frozen plasma was given to cover the removal of deep tension sutures. Healing was complete. Blood transfusion, except for

(Continued on Page 58)

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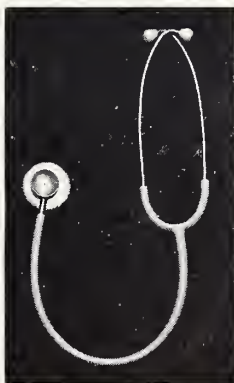
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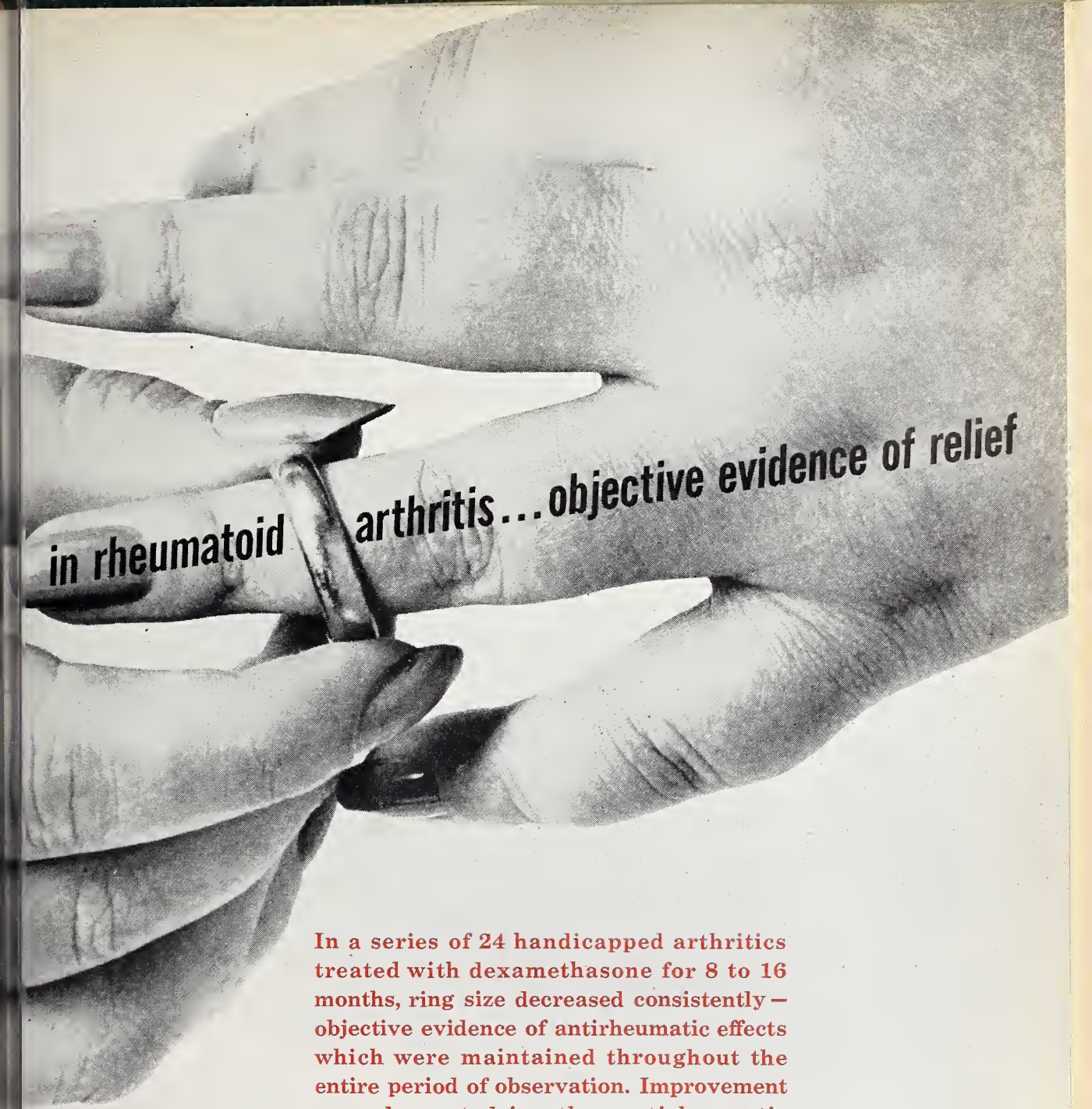


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Reference: 1. Bunim, J. J., in Hollander, J. L.: Arthritis and Allied Conditions, ed. 6, Philadelphia, Lea & Febiger, 1960, p. 364.



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REFERENCES AND REVIEWS

(Continued from Page 53)

two pints given to one patient, was unnecessary. Patients were kept inactive for one week after suture removal to avoid hematoma formation in the wound. Under cover of this material these patients behaved as normals.

* * *

SERUM-GALACTOSAMINE: DIAGNOSTIC INDEX OF LIVER FIBROSIS IN LIVER DISEASE—C. Hirayama, T. Yoshikawa, and H. Tada. *Lancet*—Vol. 1:532 (March 11) 1961.

An increase in the level of serum-galactosamine was observed in liver diseases. This increase did not correlate with impaired liver function, but it did correlate with liver fibrosis. These findings suggest that the serum-galactosamine level may be a useful index of the degree of liver fibrosis.

* * *

EMOTIONAL FACTORS IN CORONARY HEART DISEASE—H. B. Sprague. *Circulation*—Vol. 23:648 (May) 1961.

Some investigators have emphasized the role of emotional stress among the etiological factors in coronary atherosclerosis. This stress has been considered peculiar to Western civilization and correlated with the high incidence of coronary disease in this part of the world. Similarly it has been implicated in coronary thrombosis. This opinion seems unsubstantiated. Emotional stress is ubiquitous. The author describes patients illustrating the absence of either acceleration of overt coronary disease or recurrence of coronary occlusion under continued or increased nervous tension. Genetic influences are paramount in atherosclerosis, and environmental factors other than emotional stress appear to be much more significant in its development.

* * *

TREATMENT OF ACUTE RHEUMATIC FEVER—A. Dorfman, J. I. Gross, and A. E. Lorincz. *Pediatrics*—Vol. 27:692 (May) 1961.

A controlled study of therapy was conducted on 131 patients with first attacks of acute rheumatic fever of 18 days or less duration. All patients were maintained on a basic regimen of bed rest and initial penicillin therapy followed by sulfadiazine prophylaxis. The effect of the basic regimen was compared with those of hydrocortisone, salicylates, and a combination of these two agents. Both acetylsalicylic acid (Aspirin) and hydrocortisone favorably affected certain acute manifestations, the effect of the latter was more striking. Treatment with hydrocortisone appeared to result in a decrease in apical systolic murmurs by the end of one year as compared with acetylsalicylic acid or no specific antirheumatic therapy. No advantage of combined therapy was found. It is recommended that acute rheumatic fever with carditis should be treated with hormones, but, in the absence of carditis, salicylates should be employed.

* * *

EARLY ANEMIA OF ACUTE RHEUMATIC FEVER—A. M. Mauer. *Pediatrics*—Vol. 27:707 (May) 1961.

The early anemia in 12 patients with acute rheumatic fever was studied. Measurements of plasma volume with T-1824 dye and of red blood cell (RBC) volume with Cr⁵¹-labeled RBC's demonstrated the cause to be a dilution of RBC mass by a transient increase in plasma volume. Red blood cell survival was studied in three patients and was normal. Although the reason for the increase in plasma volume was not apparent from these studies, this process would seem to be a primary feature of early acute rheumatic fever.

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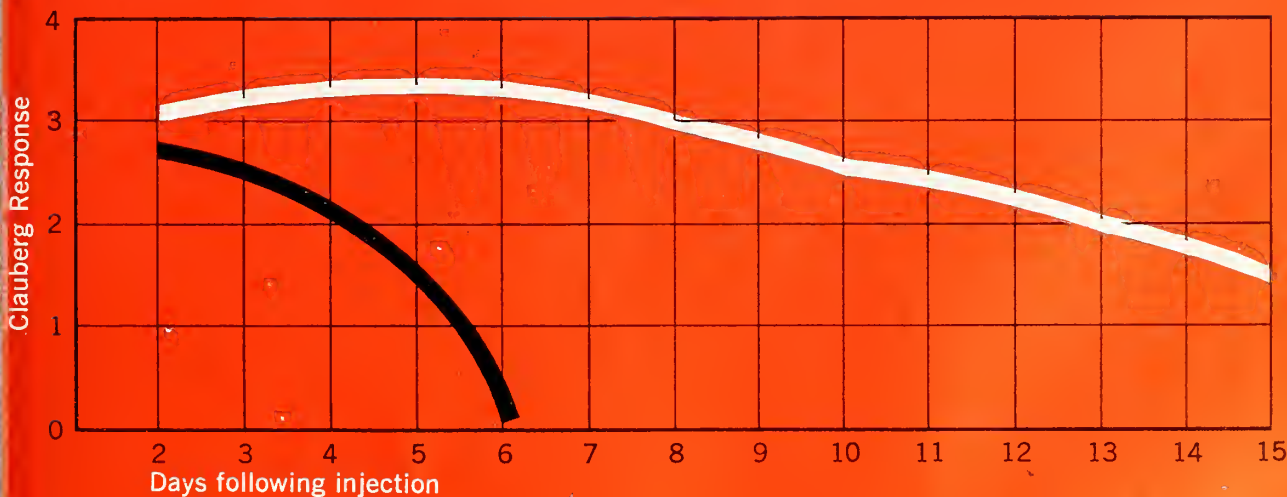
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Borman, A.: Laboratory Report on the Duration of Action of 17-Alpha-Hydroxy-progesterone-n-Caproate (Delalutin). The Squibb Institute for Medical Research, May 17, 1955.

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Whiplash Injuries As Serious As
Some Blows to Head

Whiplash injuries can produce brain disturbances comparable to closed head injuries caused by direct blows, two Minneapolis neurologists said recently.

A whiplash injury occurs when the head is jerked backward and forward or from side to side. It is most commonly suffered by a passenger in a car hit by another from behind or from the side.

Drs. Fernando Torres and Sidney K. Shapiro, University of Minnesota Medical School and Hospitals, reported on a comparative study of whiplash injuries and direct closed head injuries in the July *Archives of Neurology*, published by the American Medical Association.

"We conclude that marked brain dysfunction can occur as a consequence of a whiplash and not only after direct head injury," they said.

Whiplash injuries can cause symptoms and brain abnormalities similar to closed head injuries, they said.

The symptoms of patients with whiplash injuries were "strikingly similar" to those of patients with closed head injuries, they said. Headaches, nervousness, insomnia, difficulty in concentrating and vertigo were frequent complaints of both groups, they said.

Electroencephalograms were taken of 45 patients with whiplash injuries and 45 patients with closed head injuries to compare the incidence of abnormalities in electrical brain waves.

In the whiplash group 21, or 46 per cent, had moderate or marked abnormalities. In the closed head injury group 20, or 44 per cent, had comparable abnormalities.

It was also found that the type and distribution of abnormalities in the brain did not differ significantly between the two groups.

"This is another index of severity which places the two groups in the same level," they said.

The authors also said the way in which brain disturbances are caused in the two types of injuries probably is in some respects the same.

Milk Allergy Doubted
In Infant Eczema

Cow's milk, commonly incriminated in infant eczema, apparently has little influence on the skin rash, a recent study indicates.

Fifty infants suffering severe eczema were studied by Dr. Stanley S. Freedman, department of pediatric allergy, Rhode Island Hospital, Providence, R. I.

"In no instance was cow's milk the sole cause of eczema," he said.

Writing in the July *American Journal of Diseases of Children*, published by the American Medical Association, he said:

"Throughout this investigation it was evident that most cases of infantile eczema undergo frequent spontaneous remissions and exacerbation irrespective of dietary manipulations.

"It was equally evident that mothers and even doctors are very likely to attribute improvement and flare-ups to milk sensitivity factors, when actually the changes may be due to the nature of the disease or to other factors.

"In this selected series, cow's milk seemed to exert very little influence upon the course of the eczema."

Dr. Freedman said in his study an infant's eczema was judged to be influenced by cow's milk if the eczema was repeatedly ameliorated by the withdrawal of milk or if the symptoms could be reproduced by the reintroduction of milk.

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New Licenses to Practice Medicine Increased Slightly in 1960

(Continued from Page 18)

ity and endorsement of state licenses or the certificate of the National Board of Medical Examiners.

Of the 16,102 licenses, California issued the largest number with 2,427. New York issued 1,572 while more than 500 each were registered in Florida, Illinois, Michigan, New Jersey, Ohio, Pennsylvania, Texas, and Virginia.

There were 8,873 applicants examined for licensure by state medical licensing boards in 1960. A total of 1,193, or 13.4 per cent, failed. This compared with 8,996 applicants and 12.9 per cent rate of failure in the previous year.

Only 3.3 per cent of the 5,502 graduates of approved medical schools failed to pass their examinations in 1960. A total of 16 approved medical schools in the United States and three in Canada had no failures among their graduates.

The report also included results of six examinations given in 1958, 1959, and 1960 by the Educational Council for Foreign Medical Graduates to foreign students to certify that their medical knowledge is comparable to that expected of graduates of approved medical schools in the United States.

As of Dec. 31, 1960, the Council had examined 17,828 foreign medical graduates and qualified 12,588. Approximately 30 per cent failed the test.

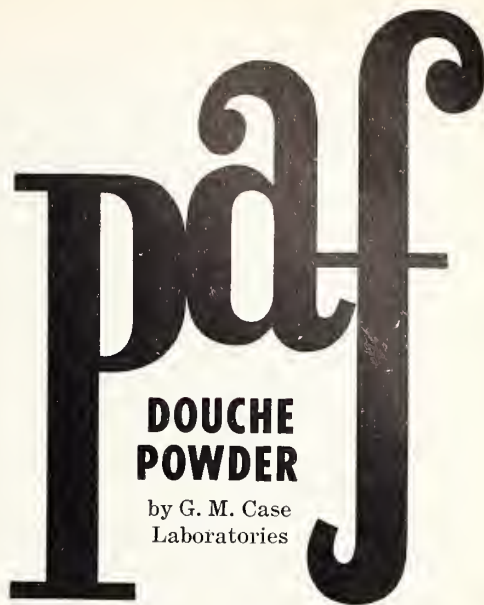
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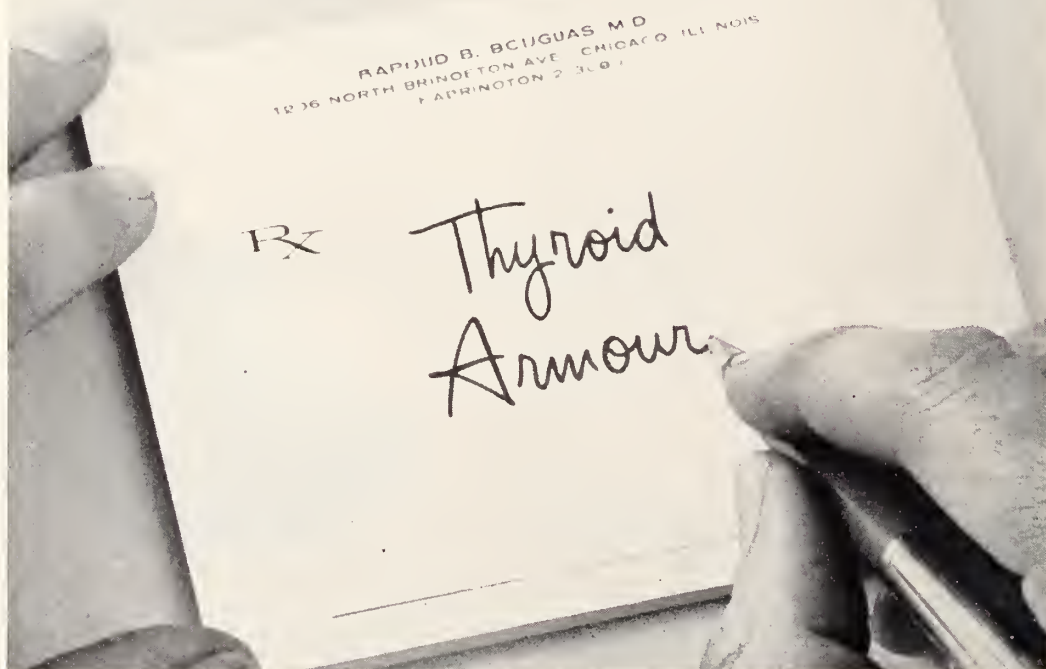
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(1) Carter, S.: *M. Clin. North America* 37:315, 1953.
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New Antibiotic Effective Against Many Infections

A new antibiotic, demethylchlortetracycline (Declomycin), has proved effective against a wide variety of infections, a report in the May 20 *Journal of the American Medical Association* said recently.

The drug was effective for 4,432, or 86 per cent, of 5,144 infectious conditions, according to Joel L. Shapiro, A.B., and Franklin M. Phillips, M.D., Lederle Laboratories, Pearl River, N. Y., the manufacturer.

The infections treated included 550 different clinical entities, the researchers said.

Their report was based on an extensive field trial, begun in 1959, in which 400 physicians prescribed the drug for 4,704 patients, some of whom were treated for more than one infection. Special data processing methods were devised to handle the large number of case studies.

A high percentage of respiratory infections responded to the drug, the authors said. Physicians also had "excellent success" in the response of venereal diseases, they said.

"There was an 85 per cent favorable response of ear and mastoid infections to the drug, although chronic conditions were less successfully treated than the most acute types," they said.

"About 94 per cent of infections of the gums and teeth responded favorably.

"About 86 per cent of the patients treated for various infections of the digestive tract responded favorably."

Of 4,704 patients, 721 or 15 per cent had infections which had proved resistant to other anti-infective therapy and later improved during treatment with demethylchlortetracycline, the authors said. By contrast, only 112 patients, or 2 per cent, failed to respond to the new drug and later improved with the administration of another agent.

Side reactions were reported in 451, or 9.6 per cent, of the patients, they reported. The figure apparently is exaggerated, they said, because it included such conditions as those which were probably a natural consequence of the infection itself or due to a reaction of simultaneously administered medications.

Although all the conditions reported by the responding physicians have not been listed, they said, "this brief analysis of the mass of information received should provide a strong foundation for anticipating the results of the treatment of a very large segment of infections commonly encountered."

MEDICAL METERING PUMP—J. Anderson, V. Parsons, L. W. Baker, and H. A. F. Dudley. *Lancet*—Vol. 1:646 (March 25) 1961.

A new pump for infusions and feeding based on the diaphragm-flexing principle is described. Continuously variable 0-1000 ml/hr. It is sterilizable, highly reliable, and safe against failure.

Certain Character Traits Traced to Immigration

Cultural conflicts resulting from immigration can lead to certain character traits in the American-born offspring, according to Dr. Peter L. Giovacchini, Chicago psychiatrist.

A child born of immigrant parents in effect is reared in two cultural settings, Dr. Giovacchini said in an article in the July *Archives of General Psychiatry*, published by the American Medical Association.

Analyzing five adult male patients all born within one year of the parents' arrival in this country, he said:

"The variable of having been raised in two cultural settings concurrently is seen as having particular effects on the family and to lead to certain specific characterological features of the second generation immigrant patient."

These patients were confronted with a conflict between the standards of the family and those of the society into which they had been born, he explained. The choice was not an easy one because the adoption of the attitudes of the new culture was equivalent to displeasing the family, he said.

Older brothers or sisters, born in Europe, also had difficulties, he said, but instead of condemning their background, they were critical of their new surroundings. However, they were able to adjust to the new customs even though they did not agree with them, he said.

On the other hand, he said, the patients were sometimes completely rejected in their attempts to identify with a group, or, in most instances, retained in an inferior capacity and continually ridiculed.

Although it was a blow to their self-esteem, they seemed to accept the clown role without outward protest and went further by burlesquing the mannerisms and accents characteristic of their background, he said.

One would have expected considerable anxiety as a result of these conflicts, Dr. Giovacchini said, but instead these patients displayed an air of calm and an objectivity and perceptiveness that seemed to be mature reflection. The patients described themselves as having been serious and pensive children, he said.

The preponderance of these traits of clownishness and pseudomaturity was striking among the five patients, he said. The same pattern of reaction persisted into adult life and most of these patients sought help when this particular inconsistency in their behavior produced problems of social maladjustments.

Dr. Giovacchini stressed that his findings were based on only five case studies and that it was not his intention to draw generalizations about all immigrants.

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New Virus Definitely Linked To Respiratory Ills

A recently discovered virus has been found to be an important cause of severe respiratory illnesses in infants and a disease resembling the common cold in adults.

The findings represent a major step toward the development of a vaccine which could protect infants from severe and often fatal illness and a better understanding of the common cold.

They were made public recently in a series of four reports on the RS (respiratory syncytial) virus in the May 27 *Journal of the American Medical Association*.

The pathogen was first recognized as a human virus in 1956 by a group working with Dr. Robert M. Chanock of the National Institute of Allergy and Infectious Diseases, Bethesda, Md., a co-author of the *Journal* reports.

Within recent years evidence has accumulated that much of the respiratory disease of man is caused by viruses, an editorial of the same *Journal* pointed out.

The influenza virus was the first shown to cause human respiratory disease, it said. Although the flu virus occurs in dramatic outbreaks, it accounts for only 5 per cent of all respiratory illnesses, it said. The noninfluenzal respiratory illnesses, which occur throughout the year, are considerably more important because they are associated with a much higher death rate than is influenza.

Dr. Chanock and his associates, Hyun Wha Kim, M.D., Andrew J. Vargosko, Ph.D., Ann Deleva, M.S., Washington, D.C., Karl M. Johnson, M.D., Christine Cumming, R.N., Bethesda, Md., and Robert H. Parrott, M.D., Washington, D.C., recovered 56 strains of RS virus from 346 infants and children treated at Children's Hospital, Washington, D. C., for respiratory ill from March through July, 1960. They found only four strains of RS virus among 272 children who did not have respiratory ailments.

"RS virus was recovered from 42 per cent of all patients with bronchiolitis and from 24 per cent of all patients with pneumonia . . . while only 1 per cent of control patients yielded the agent," they reported.

The virus also was recovered from 12 per cent of infants and children with minor respiratory illness, they said.

"The findings confirm the association of RS virus with disease of the upper and lower respiratory tract," they said.

The results also suggest that RS virus is a respiratory disease-causing agent of "major significance in infancy and early childhood," they added.

The virus was isolated most frequently from infants under seven months of age, being found in 59 per cent of those who had bronchiolitis and in 54 per cent of those with pneumonia.

(Continued on Page 74)



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*Gamble, C. J.: Am. Pract. & Digest Treat. 11:852 (Oct.) 1960. See also Berberian, D. A., and Slighter, R. G.: J.A.M.A. 168:2257 (Dec. 27) 1958; Olson, H. J.; Wolf, L.; Behne, D.; Ungerleider, J., and Tyler, E. T.: California Med. 94:292 (May) 1961; Kaufman, S.A.: Obst. & Gynec. 15:401 (Mar.) 1960; Warner, M.P.: J.Am. M. Women's A. 14:412 (May) 1959.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.

A COURSE IN EPIDEMIOLOGY—I. I. Elkin. Contributors—A. Ya. Alimov, I. I. Elkin, S. V. Guslits, A. I. Nemirovskaya, I. R. Stepanov, V. M. Zhdanov. Translated from the Russian by C. R. Pringle, Ph.D. Pergamon Press Inc., 122 East 55th Street, New York 22, N. Y., 1961. 518 pages, \$12.00.

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CORONARY VASODILATORS—R. Charlier, Head of the Pharmacology Department, Labaz Laboratories, Brussels. (International Series of Monographs on Pure and Applied Biology. Division: Modern Trends in Physiological Sciences, Volume 10). Pergamon Press Inc., 122 East 55th Street, New York 22, N. Y., 1961. 208 pages, \$8.50.

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ONE FOR A MAN, TWO FOR A HORSE—Gerald Carson. Doubleday & Company, 575 Madison Ave., New York 22, New York, 1961. 128 pages, \$6.50.

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POLIOMYELITIS—Papers and Discussions Presented at the Fifth International Poliomyelitis Conference, Copenhagen, Denmark, July 26-28, 1960. Compiled and Edited for the International Poliomyelitis Congress. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1961. 435 pages, \$7.50.

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PSYCHOSOMATIC ASPECTS OF PAEDIATRICS—Study Group of the Society for Psychosomatic Research Held at the Royal College of Physicians, May 1959. The Study Group was organized and the Proceedings edited by Ronald Mac Keith, Physician in the Children's Department, Guy's Hospital; Paediatrician to The Tavistock Clinic; Medical Editor, Cerebral Palsy Bulletin; and Joseph Sandler, Research Psychoanalyst, The Hamstead Child-therapy Clinic; Consultant Psychologist, The Tavistock Clinic; Editor, The British Journal of Medical Psychology. Pergamon Press, Inc., (Symposium Publications Division), 122 East 55th Street, New York 22, N. Y., 1961. 155 pages, \$8.50.

RECOGNIZING THE DEPRESSED PATIENT—With Essentials of Management and Treatment—Frank J. Ayd, Jr., M.D., Diplomate, American Board of Neurology and Psychiatry; Fellow, American Psychiatric Association; Chief of Psychiatry, Franklin Square Hospital, Baltimore, Maryland. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 138 pages, \$3.75.

THORACIC DISEASES—Emphasizing Cardiopulmonary Relationships—Eli H. Rubin, M.D., F.A.C.P., F.C.C.P., Professor of Clinical Medicine, Albert Einstein College of Medicine, Yeshiva University; Attending Physician, Pulmonary Division, Montefiore Hospital; and Morris Rubin, M.D., F.A.C.S., F.C.C.P., Associate Clinical Professor, Thoracic Surgery, Albert Einstein College of Medicine, Yeshiva University; Director, Cardiac and Thoracic Surgery, Morrisania City Hospital. In association with George C. Leiner, M.D., F.A.C.P., F.A.C.C., Lecturer in Medicine, and Doris J. W. Escher, M.D., Lecturer in Medicine, both from Columbia University, College of Physicians and Surgeons. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 968 pages, \$25.00.

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Volume 95

OCTOBER 1961

Number 4

Renal Vascular Hypertension

DOROTHEE PERLOFF, M.D., and MAURICE SOKOLOW, M.D., San Francisco

HYPERTENSION, even in its mildest form, is a serious disease which shortens normal life expectancy and accelerates atherosclerosis.³⁷ Although modern drugs have been found effective in decreasing the mortality in severe hypertension,^{29,36} long-term studies on the survival of treated mild hypertensive patients are not available, and the effectiveness of such therapy in delaying the development of atherosclerosis is not known. A complete cure of hypertension is therefore clearly superior to lifelong drug therapy.

The etiologic relationship of hypertension to diseases and abnormalities of the kidneys and their blood supply has been recognized increasingly since the initial observations by Bright in 1836.³ More recently knowledge in this field has been advanced especially by the experimental work on renal ischemia by Goldblatt and coworkers¹⁰ and the increasing use in hypertensive patients of diagnostic techniques such as pyelography, aortography and divided renal function studies.^{5,14,24} Correction of a renal abnormality may result in a permanent cure of hypertension unless secondary arteriolar changes, which are thought to sustain the hypertension, have developed. It is imperative, therefore, to recognize the presence of correctible forms of hypertension as early as possible in the course of the disease in order to achieve a permanent cure. The actual frequency of correctible forms of secondary renal hypertension among the hypertensive population is

unknown. Figures range from 1 to 5 per cent. In the light of recent work, however, it seems likely that the incidence is considerably higher.

The renal abnormalities associated with hypertension include parenchymal lesions, such as pyelonephritis or hydronephrosis, correctible only when the disease is unilateral and can be "cured" by nephrectomy; perinephric lesions such as perinephric abscess and fibrosis; and vascular lesions, partial or complete occlusion of one or both main renal arteries or their major branches due to any of the following:^{19,39}

- Atherosclerotic concentric or eccentric plaques or intimal hyperplasia
- Fibromuscular medial hyperplasia
- Fetal membranes or intimal hyperplasia
- Coarctation or hypoplasia of the abdominal aorta and renal arteries
- Unilateral renal artery hypoplasia
- Localized inflammation or fibrosis as in arteritis or thromboangiitis
- Thrombosis formed locally, by extension from the aorta or embolic
- External compression due to scarring, fibrous bands, hematoma, abscess, cysts, tumors, aortic aneurysm or other aberrant overlying structures
- Trauma—accidental injury or surgical.

These arterial lesions are potentially correctable and it is with their diagnosis and treatment that this paper deals.

The mechanism by which impaired renal arterial flow produces hypertension has been the subject of

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This study was aided by grants from the United States Public Health Service (H-754 and HTS-5416).

Submitted September 11, 1961.

intensive research and the many conflicting reports attest the confusion that still exists.* In experimental animals acute renal artery obstruction produced with a clamp results in the initiation of the renin-pressor mechanism due to a fall in blood flow, a fall in the mean pressure, or decrease in pulse pressure or pulsatile flow. Renin, a proteolytic enzyme probably formed and released by the granules of the juxtaglomerular cells of the afferent arterioles,⁷ acts on a plasma substrate (alpha-2 globulin) formed in the liver, splitting off a decapeptide known as angiotensin (angiotonin I, hypertensin I). Angiotensin I is a compound with little pharmacologic activity until by the action of "converting enzyme," a circulating proteolytic enzyme, it is changed to an octapeptide named angiotensin II (angiotonin II) (hypertensin). This is a very active pressor substance which also stimulates aldosterone production.

There is considerable disagreement on the exact compound responsible for the elevated pressure of patients or experimental animals with hypertension, renin, angiotensin or some other pressor substance. Peart, using a pithed nephrectomized rat, has been unable to demonstrate renin or hypertensin in renal vein blood from patients with various forms of hypertension.²⁷ On the other hand, Helmer, using a spirally cut rabbit aorta strip preparation, was able to demonstrate the presence of a vasoconstrictor substance similar to renin and angiotensin in renal vein blood from patients with malignant hypertension and hypertension secondary to renal artery stenosis.¹¹ Angiotensin has recently been synthesized and the availability of this standardized pressor agent will help to clarify some of these discrepancies. It is quite possible that only small amounts of angiotensin acting over a long period can result in hypertension rather than abrupt rapid increases.²³ An understanding of the actions of angiotensin may be a key to the entire complex problem of hypertension.

The selection of patients with renal arterial lesions from among the large population of patients with essential hypertension presents a major problem since the clinical pattern of renal vascular hypertension is not always specific. The presence and exact anatomic localization of the arterial abnormality can be defined only by renal artery visualization (arteriography) or at operation. The routine use of renal arteriography in all hypertensive patients has been considered impractical and the potential risk of complications too high. Reports of retroperitoneal bleeding, hematuria and impaired renal function, transverse myelitis and reflex hypotension have deterred the clinician.¹⁸ Therefore certain observations

from the clinical history, physical examination, laboratory and radiologic studies which are a part of the usual diagnostic survey of hypertensive patients have been used to select the patients most likely to have demonstrable renal artery abnormalities as the cause of their hypertension.^{28,31} These indications for arteriography are factors which suggest that the hypertension is atypical, differing in some way from the accepted pattern of essential hypertension. Included in the list are the following:

A history of:

- Onset of hypertension under the age of 30 or over the age of 50, especially in the absence of a family history of hypertension.
- Abrupt recent onset or exacerbation of existing hypertension.
- Recent unexplained flank or abdominal pain.

The presence on physical examination of:

- Fresh hemorrhages, exudates and papilledema in the optic fundi indicating accelerated disease.
- A bruit over the epigastrium or costovertebral angles.
- Localized aortic enlargement consistent with an aneurysm.
- Diminished pulses with or without a bruit over the iliac and femoral arteries indicating lower aortic and iliac atherosclerosis.

Radiologic evidence of:

- Difference in renal size of 1 cm. or more (normal variation in renal size is ± 0.5 cm., the left kidney normally larger than the right).²⁰
- Delayed or diminished function of one kidney on intravenous pyelography.
- Delay and decrease in the height of the vascular phase in the radioactive renogram as measured over one or both kidneys.

Significant difference in separate renal excretion of:

- Sodium, water, phenolsulfonphthalein, potassium, chloride, etc. ("Howard" test).

In various series of patients selected for arteriography on the basis of the presence of one or more of these indications, the yield of arterial abnormalities has ranged from 25 to 50 per cent.^{28,32} It must be stressed, however, that in occasional hypertensive patients with stenotic renal artery lesions none of these indications is present. Patients with mild, easily controlled hypertension and equal renal function and size may have lesions as well as those with severe fixed hypertension and impaired renal function. The high incidence of bilateral lesions (± 40 per cent in our experience), moreover, makes any

*References 2, 6, 11, 23, 26, 27.

test dependent on a comparison between the two kidneys of limited value. There is as yet no completely reliable means to screen out all patients with arterial abnormalities other than arteriography. Since, until recently, patients who did not have the above indications were excluded from arteriography, there are no figures on the absolute prevalence of renal arterial abnormalities in the hypertensive population. In one center all patients with a sustained diastolic blood pressure of 110 mm. of mercury or above are routinely submitted to renal arteriography.¹² Although the over-all percentage of patients with renal vascular abnormalities is lower than in the series quoted earlier, the potential benefits from finding such curable lesions is considered justification for the small but inevitable risk from arteriography.

The techniques used for arteriography include:

1. Translumbar aortic puncture which, although most widely used, may, in addition to the complications mentioned earlier, produce periaortic inflammation and fibrosis which interfere with surgical operation later.^{28,35}

2. The retrograde transfemoral approach (Seldinger) which can be used for selective injection of single vessels and avoids many of the above complications but is not advised in patients with occlusive disease of the lower aorta, iliac and femoral arteries.³³

3. The intravenous technique, which, although requiring a much larger volume of radiopaque dye, has been reported relatively free of complications but does not always give satisfactory visualization of small arterial details.³⁸

The over-all risk can be considerably reduced by using local rather than general anesthesia and by avoiding multiple injections of large volumes of radiopaque medium.

Accurate diagnosis of renal arterial abnormalities depends primarily on the availability of good films, clearly demonstrating the renal arteries, and the recognition of the radiologic patterns of the different types of anatomic abnormalities. Overlying bowel or underlying bony structures may obscure critical sections of the arteries producing the false impression of an anatomic obstruction.⁴ This often necessitates a repeat injection of radiopaque dye with the patient in a more oblique position. The origin of the renal arteries from the aorta is occasionally difficult to define clearly due to variations in its location and angle and the difficulty of excluding posterior wall plaques.

The radiologic patterns of renal artery obstruction are of four main types:

1. Complete occlusion, which may be very difficult to recognize unless a small stump is present or large collateral channels are visualized.



Figure 1.—Renal arteriogram showing multiple renal arteries on the right with normal vascularization of the right kidney; arteriosclerotic narrowing and tortuosity of proximal left renal artery with poststenotic dilatation.

2. Atherosclerotic plaques of older patients which usually occur at the orifice of the artery or within the first one-third, are often bilateral and may be associated with vascular disease in other vessels (Figure 1).

3. Fibromuscular hyperplasia of the media, observed in young patients with relatively mild hypertension, mostly women,²⁵ which usually occurs in the middle and distal two-thirds of the artery and produces alternating areas of constriction and dilatation (often aneurysmal) of the arterial lumen giving an "accordion pleating" effect. This lesion also may be bilateral and in older patients may be associated with atherosclerotic lesions at the renal artery origin (Figure 2).

4. Hypoplasia of one kidney and its blood supply, both of which may be ectopic, is occasionally seen; radiologically primary hypoplasia may be indistinguishable from atrophy secondary to chronic pyelonephritis or ischemia.

Multiple renal arteries or ectopic origin of the arteries have been considered nonpathologic variants and are not considered a cause of hypertension *per se*, although some recent work casts doubt on this.⁸ The significance of isolated renal artery aneurysms or of intrarenal aneurysms in the etiology of hypertension is not certain although "cures" have been reported following the surgical removal of such lesions.^{22,30} In addition to the definite abnormalities described above, minor irregularities of the lumen or uniform tapering of the artery are occasionally seen. Few of these have been investigated at operation or autopsy and their etiologic significance in hypertension remains uncertain. It will be necessary to perform serial arteriographic studies

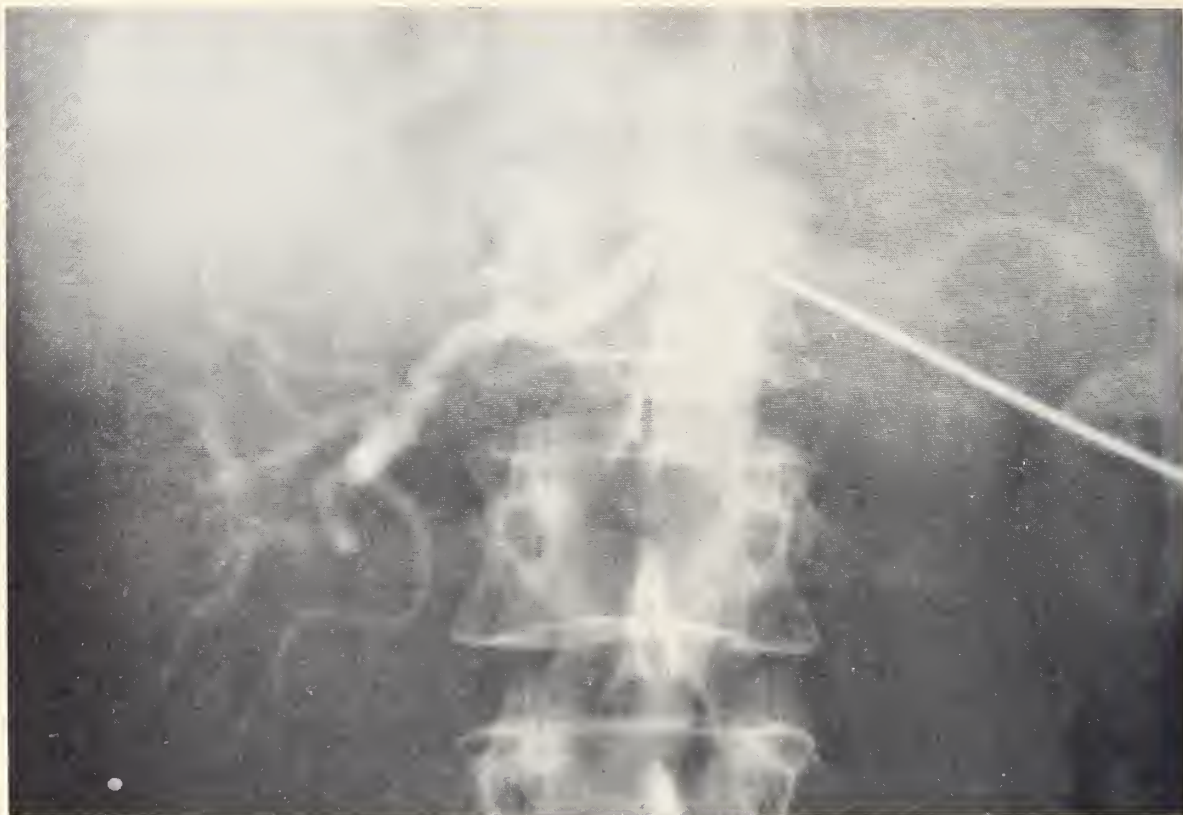


Figure 2.—Renal arteriogram showing right renal artery with alternating areas of narrowing and dilatation typical of fibromuscular medial hyperplasia.

on some of these patients to determine if these changes represent the early stages of occlusive disease.

The etiologic relationship of a specific arterial lesion to the hypertension of a specific patient is only proved if the hypertension subsides permanently following the correction of the lesion. However, secondary arteriolar changes in the kidney may be responsible for sustaining the hypertension postoperatively even after the primary defect has been corrected. Patients with longstanding hypertension in whom premature atherosclerosis has resulted in a renal artery plaque which has in turn accelerated the hypertension may not be cured of the underlying hypertension by removal of the occlusive plaque. Although unilateral decrease in renal sodium and water excretion (positive "Howard" test) has been observed preoperatively in patients with unilateral renal artery lesions whose hypertension subsided after nephrectomy, the "Howard" test is not always reliable in predicting the postoperative outcome and is of little value in the presence of bilateral disease.^{5,28}

The choice of the surgical procedure for each case depends on several theoretical and practical considerations. Both experimental work in animals

and observations in humans has demonstrated that the kidney distal to a stenotic renal artery may be a potentially normal kidney, unaffected by the arteriolar changes resulting from longstanding or accelerated hypertension.^{1,13} Kolff and Page have presented experimental data suggesting that a normal kidney has a role in maintaining or restoring normal blood pressure in renoprival hypertension.¹⁶ It is therefore desirable whenever possible to correct the arterial abnormality and preserve the ischemic but potentially normal kidney rather than to remove it, especially in the case of bilateral arterial obstruction. Reconstructive vascular techniques, however, require a highly skilled surgeon and the operative procedure is longer and more hazardous than simple nephrectomy. In older patients with cerebral and coronary atherosclerosis, the risks of the operation must be weighed against the advantages of reconstructive rather than ablative procedures. Impaired renal function, unless very severe, is not a contraindication to renal vascular operation, since it may actually be reversed by the procedure.⁹

Nephrectomy is the procedure of choice in patients with unilateral renal and renal artery hypoplasia, irreversible renal infarction or atrophy, and

extensive unilateral disease involving renal artery branches precluding vascular reconstruction.

Evaluation of the degree of stenosis produced by a lesion and the decision at operation whether a specific lesion produces sufficient stenosis to initiate the renal-ischemia pressor mechanism presents another problem. Some surgeons consider sufficient indication for surgical intervention the presence of a definitely palpable plaque or arterial wall thickening, especially when associated with a thrill and in the presence of a decreased pulse distally.²⁸ Morris and coworkers²¹ perform routine pressure and flow measurements across the stenotic segment, and vascular reconstruction is considered in the presence of a definite gradient. These studies, however, are still in the experimental stage and their usefulness will be apparent mostly in borderline or questionable cases. The only available preoperative procedure for detecting the degree of renal blood flow impairment is the radioactive renogram,⁴⁰ a relatively simple test requiring expensive equipment. A minute dose of radioactive iodine-labeled Diodrast® or preferably Hypaque® or Hippuran® (dyes which are rapidly cleared by the kidney) is injected intravenously and the gamma radiation over the two renal areas is recorded continuously over a 10 to 30-minute period. The preliminary peak in the curve of radioactivity represents the first flooding of the kidney with blood (vascular phase); the second and longer portion, the accumulation of dye due to tubular excretion (secretory phase); and the last portion the excretory phase. Comparison of the curves from the two sides enables detection of impaired vascularization, detection of renal parenchymal disease and of stasis due to ureteral obstruction. This test promises to be of considerable help in determining renal vascularity both preoperatively and postoperatively.

The commonly used vascular reconstructive techniques include:

1. Thromboendarterectomy of the involved renal artery and associated aortic lesion if present.

2. Segmental resection of the diseased arterial portion with end-to-end reanastomosis of the uninvolved artery ends, occasionally necessitating mobilization of the kidney to avoid tension on the anastomosis.

3. Spleno-left renal arterial shunt—by-passing the stenosed segment (splenectomy is usually not necessary).

4. Insertion of a prosthetic by-pass graft from the aorta to a point distal to the stenosis in the renal artery.

The choice of technique depends in part on the side, the site and the extent of the lesion and in part on the experience and preference of the surgeon.¹⁷

The reports on the results from surgical treatment in different medical centers are still only preliminary because of the recent development of this field and lack of long-term postoperative observation in all series.

The percentage of cures of hypertension following revascularization or nephrectomy varies from the 32 per cent figure of Morris and coworkers²¹ to the 40 per cent review figure of Kincaid-Smith.¹⁵ The figures of Brown and associates,⁴ Perloff and coworkers²⁸ and Poutasse, Dustan and Page³² are in between these two extremes (Table 1). This wide range probably results from differences in the selection of the patient population, types of operative procedures and mean duration of follow-up. However, even the least favorable figures are considerably better than those of Homer Smith³⁴ for the over-all effectiveness of nephrectomy for cure of hypertension. Nor do the over-all figures reflect the importance of a complete cure in the life of any one relatively young patient who would otherwise have been destined to a life of drug therapy.

Failure of postoperative blood pressure fall suggests: (1) Inadequate revascularization, (2) secondary inoperable arteriolar changes due to longstanding hypertension, (3) extrarenal, possibly neurogenic mechanisms acting to sustain hypertension initiated by any mechanism.

The possibility of recurrence of the atherosclerotic plaques or medial hypertrophy is a real one; only long-term studies will clarify the frequency with which this will occur.

Following are two case reports: The first of a middle-aged man with malignant hypertension of recent onset due to an atherosclerotic plaque, and the second of a young girl with mild hypertension due to medial fibromuscular hyperplasia of the renal artery. Both have been "cured" of their hypertension.

In conclusion, we would like to stress (1) The apparent prevalence of renal vascular abnormalities in patients with hypertension, (2) the high percentage of apparent cures of the hypertension following adequate vascular reconstruction or nephrectomy in these cases. The localization of such vascular abnormality can be defined only by arteriography. In the absence of a completely reliable screening test this procedure must be considered in every severely hypertensive patient in spite of the small but present risk and morbidity from the procedure.

REPORTS OF CASES

CASE 1. A 47-year-old lumberman was in good health until 15 months before admission. Then he began having morning headaches, occasional epi-

TABLE 1.—Results from Surgical Correction of Occlusive Renal Vascular Lesions in Several Medical Centers

Authors	Time Period	Number of Arteriograms	Number of Patients with Arterial Lesions	Number of Patients Operated Upon	Number of Patients with Bilateral Lesions	Number of Nephrectomies	Number of Vascular Repairs	Number of Patients Improved by Surgery	Normal BP	BP Lowered but Not 140/90	No BP Full	Deaths	Duration of Follow-up
Pontasse et al. ³² Cleveland March 1961	1955-1960	427	131 (31%)	80	17 (21%)	48	32	61 (76%)	39	22	9	10	<5 yr.
Morris et al. ²¹ Houston July 1960	1960	?	?	32	14 (44%)	2 (combined with vascular surgery)	30	26 (81%)	20	6	0	1	3 mo. to 2½ yr.
Perloff et al. ²⁸ San Francisco April 1961	1952-1960	120	54 (45%)	33	8 (21%)	8 (4 combined with vascular surgery)	30	25 (66%)	14	11	6	7	1 mo. to 7 yr.
Brown et al. ⁴ London July 1960	1957-1960	160	20 (12%)	11	?	6	5	8 (73%)	7	1	3	0	1 mo. to 14 mo.

staxis and nocturia two to three times a night. He was found to have elevated blood pressure (no previous blood pressure readings were known) and was treated with reserpine and chlorothiazide. Because of difficulty in control of the hypertension and occasional symptoms of dizziness and blurred vision he was referred to the University of California Medical Center in San Francisco for further studies and therapy. Past history and review of systems were unremarkable. The patient's mother had died of heart disease but no family history of hypertension could be established. On physical examination he was observed to be well built and in no distress; the blood pressure was 240/140 to 220/120 mm. of mercury in both arms. Fresh hemorrhages and exudates were seen in both optic fundi, with questionable early papilledema. The heart was enlarged to percussion and a definite left ventricular heave was felt. The aortic second sound was booming in quality and a grade II-III harsh systolic precordial murmur was heard radiating to the axilla but not to the neck. Examination of the abdomen and extremities was normal except for decreased pulses in the right foot. No bruit was heard over the abdomen. Laboratory studies included a hemogram which was normal, persistent albuminuria in an otherwise normal urine (300 mg. per 12-hour specimen), nonprotein nitrogen of 41 mg. per 100 cc., serum creatinine of 1.4 mg. per 100 cc. with a clearance of 83 cc. per minute, normal serum electrolytes, cholesterol content 240 mg. per 100 cc. A culture of the urine was negative. An electrocardiogram showed advanced left ventricular hypertrophy. In a roentgenogram of the chest, slight left ventricular enlargement and elongation and tortuosity of the aorta, without calcification, were noted. An intravenous pyelogram (Figure 3) was interpreted as entirely within normal limits. Divided renal function studies were measured as follows:

RIGHT KIDNEY	LEFT KIDNEY
Phenolsulfonphthalein: 75 cc. 15 per cent	Phenolsulfonphthalein: 120 cc. 17.5 per cent
Sodium: 30 cc. 1.6 mEq. per liter 31 cc. 0.8 mEq. per liter	Sodium: 50 cc. 10 mEq. per liter 55 cc. 8 mEq. per liter

Because of the apparently recent onset of malignant hypertension and the abnormal divided renal function study (positive "Howard" test) a renal arteriogram was performed using 15 cc. 76 per cent renografin injected by the translumbar route under local anesthesia (Figure 4). This was interpreted as showing stenosis of the proximal right renal artery with poststenotic dilatation and slight narrowing of the proximal left renal artery.

At laparotomy the right renal artery was found to be small and tortuous with only a barely palpable

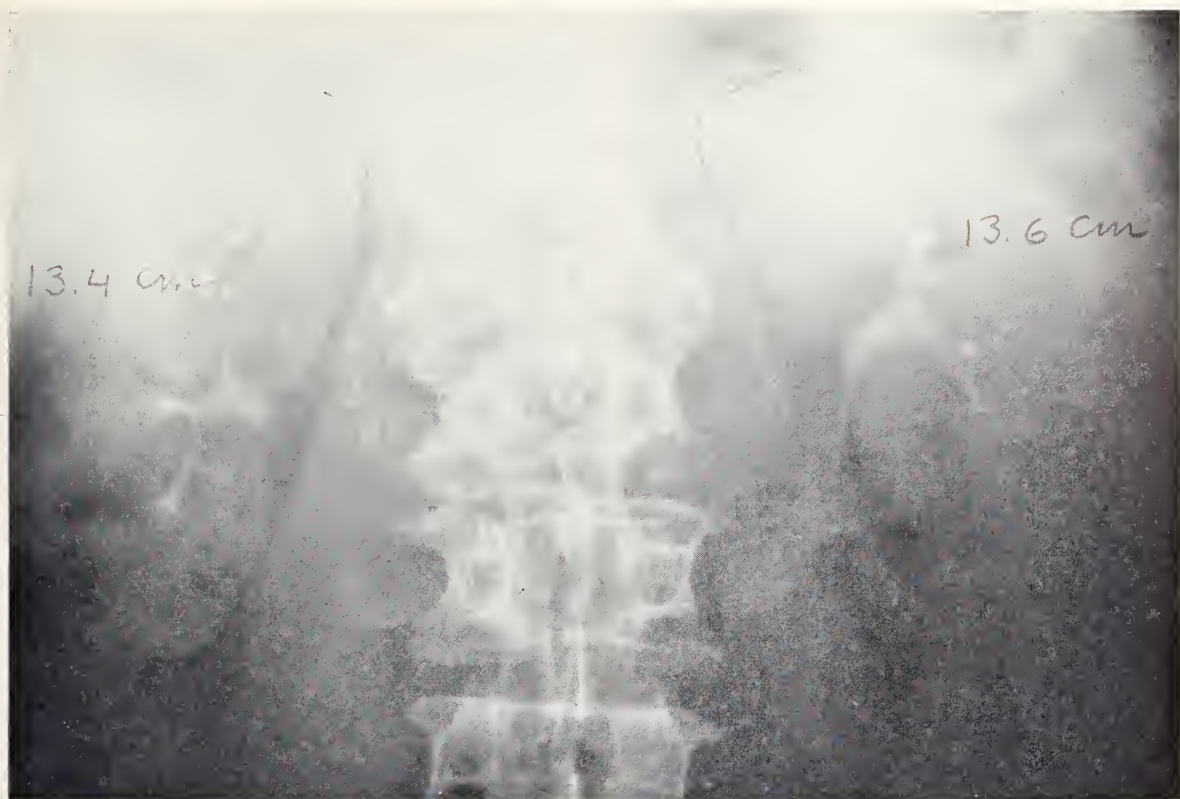


Figure 3 (Case 1).—Intravenous pyelogram showing almost equal renal size and prompt bilateral function on the 5-minute film.

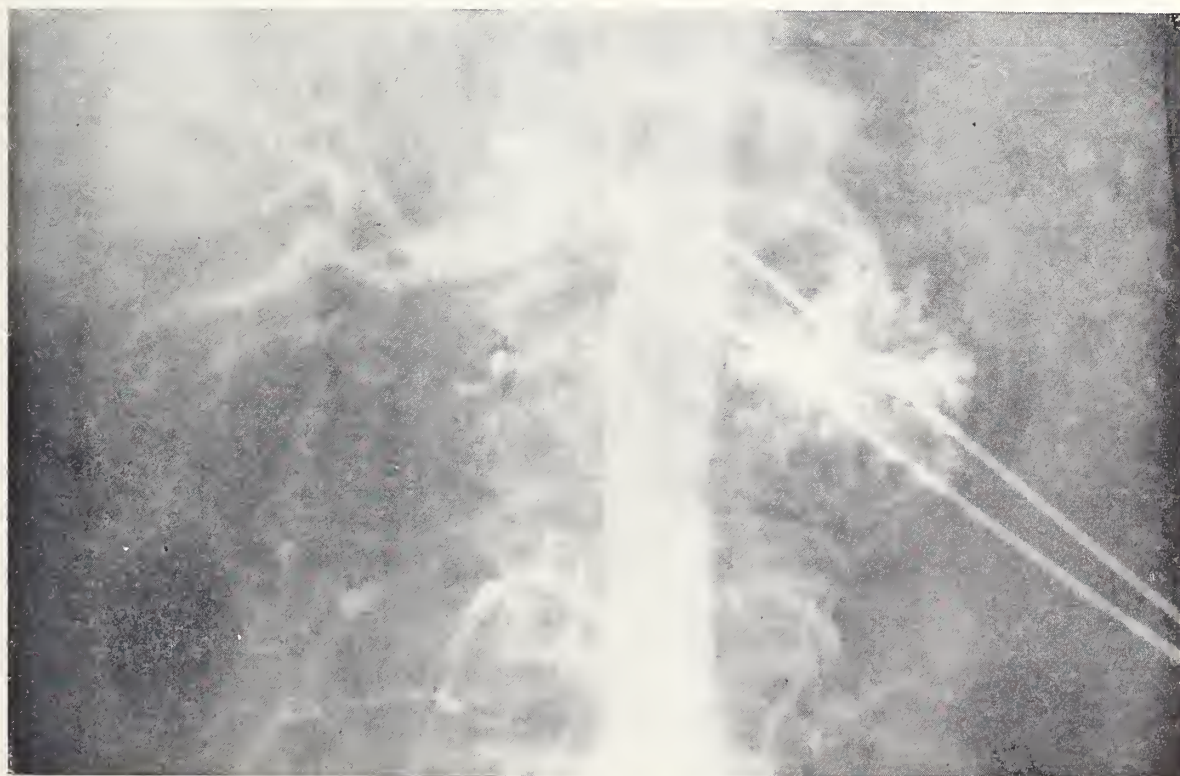


Figure 4 (Case 1).—Renal arteriogram showing proximal right renal artery stenosis with poststenotic dilatation. Extravasation of dye obscures left renal artery.

pulse and the origin of this artery from the aorta was considerably thickened. The proximal left renal artery was slightly thickened with an estimated 10 to 15 per cent narrowing but no detectably diminished pulse distally. A large plaque which almost completely occluded the right renal artery orifice was removed by thromboendarterectomy; following repair of the arteriotomy a good pulse was palpable distally. A right kidney biopsy specimen was also taken.

The pathologic report on the thromboendarterectomy specimen was "organized fibrous tissue showing myxomatous degeneration," and the renal specimen was interpreted as showing "focal interstitial fibrosis without evidence of arteriolar sclerosis." Postoperatively the patient's blood pressure decreased to 140/80 to 160/110 mm. of mercury and he made an uneventful recovery. Repeat divided renal function studies one week after operation were as follows:

RIGHT KIDNEY	LEFT KIDNEY
Phenolsulfonphthalein:	Phenolsulfonphthalein:
27 cc. 10 per cent	10 cc. 7.5 per cent
Sodium:	Sodium:
35 cc. 184 mEq. per liter	11 cc. 138 mEq. per liter

The improved excretion on the right was considered consistent with the normal response after revascularization. The patient was readmitted three weeks later because of a pulmonary infarct without obvious source of emboli, and was treated with anticoagulants. Blood pressure at that time was 130/85 to 150/90 mm. of mercury, the electrocardiogram showed no change from the preoperative record, the serum creatinine was 1.0 mg. per 100 cc. with a clearance of 129 cc. per minute. The patient had no further pulmonary emboli; four months later anticoagulants were discontinued and he returned to full-time activity. At this time his fundi were classified as grade I-II using the classification of Keith and Wagener and his blood pressure ranged around 150/98 mm. of mercury. Seven months after the operation his blood pressure was 142/88 to 158/106 mm. of mercury with excitement, the fundi showed only grade 1 changes, and at 17 months his blood pressure was 120/80 to 130/86 mm. of mercury.

CASE 2. An 18-year-old unmarried secretary was referred to the University of California Medical Center for evaluation of hypertension which had been diagnosed on routine examination at age 16. The blood pressure at age 14 was known to have been normal. Studies elsewhere revealed 1+ albuminuria on one urine specimen, normal phenolsulfonphthalein excretion, normal 24-hour urinary catechols, normal chest roentgenogram, mild left ventricular hypertrophy on the electrocardiogram,



Figure 5 (Case 2).—Initial intravenous pyelogram showing disparity in renal size with small left kidney and decreased calyceal opacification on the 5-minute film.



Figure 6 (Case 2).—Renal arteriogram showing stenotic segment in middle third of renal artery.

and slight decrease in size and function of the left kidney as observed by intravenous pyelogram (Figure 5). The patient was treated with reserpine and chlorothiazide with only moderate lowering of the blood pressure. She was known to have had a heart murmur since age 4 but denied past knowledge of renal disease, cardiovascular symptoms or other major illness. A maternal grandmother and three uncles had had hypertension.

On physical examination the patient appeared well developed and in no distress. The blood pressure ranged from 170/100 to 190/115 mm. of mercury in both arms, the fundi revealed only mild arteriolar spasm and narrowing without arteriovenous crossing changes. A soft blowing systolic mur-

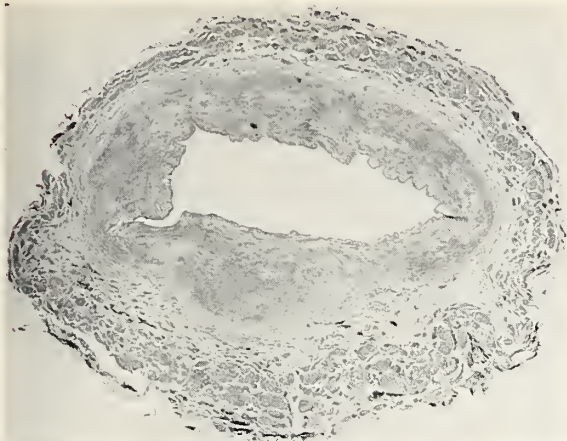


Figure 7 (Case 2).—Pathologic specimen—cross-section of stenotic segment of renal artery, showing localized thickening of the media. (Hematoxylin and eosin; $\times 25$.)

mur was heard in the pulmonic area; the heart was not enlarged and the sounds were not abnormal. A loud systolic epigastric and low back bruit was noted. The peripheral pulses were normal. Results from laboratory studies included a normal hemogram and urinalysis, a serum creatinine of 0.8 mg. per 100 cc. with a clearance of 138 cc. per minute, and cholesterol content of 276 mg. per 100 cc. Early left ventricular hypertrophy was noted on a cardiogram; a roentgenogram of the chest was normal. Renal arteriography was performed because of the relatively recent onset of hypertension in a patient under the age of 20, the presence of an epigastric bruit and the slight discrepancy in renal size and function on intravenous pyelography (Figure 6). A localized segment of narrowing in the middle of the left renal artery was demonstrated.

At laparotomy, a constriction in the middle of the left renal artery was observed, and a thrill and diminished distal pulse palpated. This portion of the artery was resected and splenorenal arterial anastomosis with the distal uninvolved segment of the renal artery was carried out. The proximal renal artery stump was tied off; the spleen was not resected. Wedge biopsy specimens were taken from both kidneys.

Following operation the patient's blood pressure remained at 140/70 to 150/90 mm. of mercury, and recovery was uneventful.

The pathologic report on the surgical specimen was "fibromuscular hyperplasia of the renal artery" (Figure 7). The right kidney biopsy was normal and the left (the side of the arterial lesion) showed focal atrophy and fibrosis with chronic inflammatory cells.

Following discharge from the hospital the patient was observed at one to two month intervals. Her

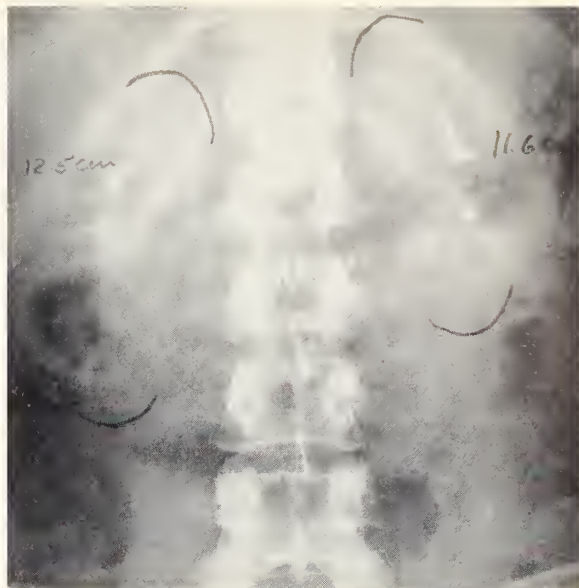


Figure 8 (Case 2).—Postoperative intravenous pyelogram showing equal bilateral function on the 5-minute film with relative decrease in size of the right kidney and increase in size of the left kidney.

blood pressure remained around 120/70 to 130/80 mm. of mercury with occasional readings up to 150/84 mm. of mercury when she was excited or under tension. The epigastric bruit persisted but diminished in intensity. The fundi returned to normal, electrocardiographic tracings returned toward normal and an intravenous pyelogram 11 months after operation was interpreted as showing less discrepancy in renal size and function than the preoperative one (Figure 3). When last seen 16 months after the operation, her blood pressure was 138/78 to 128/76. She was entirely asymptomatic.

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Hypernatremia

Its Significance in Pediatric Practice

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ALTHOUGH HYPERNATREMIA (serum sodium concentration of 150 mEq. per liter or more) is by definition a laboratory diagnosis, early evaluation and proper management remain largely a clinical responsibility. Because delayed or inappropriate therapy can lead to irreversible brain damage or death, it behooves every physician who cares for sick children to acquire an understanding of hypernatremic dehydration. The purpose of this paper is to review the factors of clinical significance in practice and to present some of the findings in a study of 93 infants and children with hypernatremia at the Children's Hospital of the East Bay in Oakland.

PREDISPOSING FACTORS

Several predisposing factors make infants peculiarly susceptible to the development of hypernatremic dehydration (Figure 1). A relatively large surface area permits a correspondingly increased evaporative loss of water from the skin and lungs

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Presented before the Section on Pediatrics at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

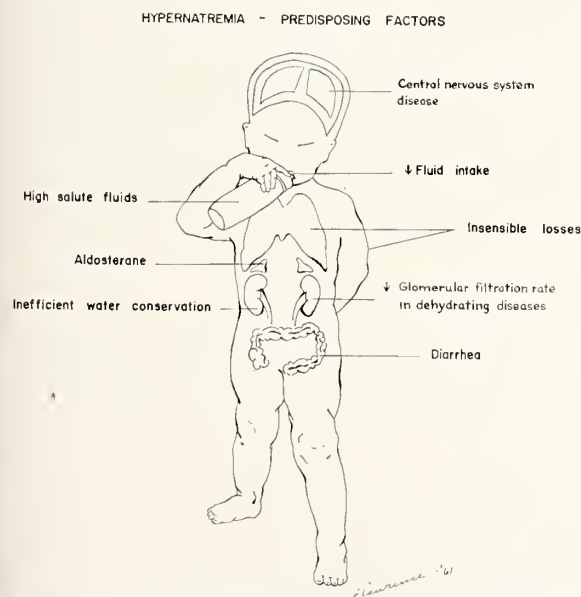


Figure 1.—Factors predisposing to the development of hypernatremia in infants and children.

• Hypernatremic dehydration is a fairly common and potentially very dangerous illness in infants and children. It occurs during the course of a wide variety of illnesses.

Predisposing factors include central nervous system diseases, decreased fluid intake, increased fluid losses from hyperventilation, perspiring, diarrhea and emesis, increased aldosterone output (contributing to sodium retention), the infant's high obligatory renal water loss and the practice of feeding infants fluids with a comparatively high solute content.

If the attending physician is aware of the predisposing factors and makes an early diagnosis and then rehydrates the patient slowly using solutions which contain some salt, the outcome will most likely be favorable. Even though the brain appears to be damaged during rehydration, the patient may make a complete recovery if proper supportive measures are instituted.

(insensible loss). This loss is greatly magnified when there is sweating in response to fever or environmental heat and when there is hyperventilation due to respiratory disease, acidosis, fever and crying.

Approximately one out of five children admitted to the hospital for diarrhea has hypernatremic dehydration. The role of diarrhea in the production of hypernatremia has been particularly emphasized and perhaps overemphasized. This may reflect the frequency of diarrhea in infants and the fact that pediatricians have been trained to observe serum electrolyte content in such patients with great diligence. A recent study¹⁰ showed no correlation between sodium loss in diarrheal stools and serum sodium values, but diarrheal stools that produce a greater loss of fluid than of electrolytes may be significant.

A less apparent but perhaps more fundamental etiologic factor is to be found in the infant's immature and normally inefficient renal concentration mechanism that requires a persistently high obligatory loss of renal water. Furthermore, a dehydrated sick infant is able to conserve water even less efficiently than a normal infant. It has been shown that both the glomerular filtration rate and the urea clearance are decreased in dehydrating diseases.¹ Factors such as fever and the disease itself which augment tissue breakdown will increase the solute

load. When in addition there is underlying renal disease, the infant is further handicapped. (Six per cent of the patients in the present study had serious renal diseases.)

Central nervous system diseases in children (cerebral concussion, mental retardation, brain tumor, meningitis, subdural hygroma) predispose toward hypernatremia even when there has been no dehydration.³ This effect is possibly mediated through aldosterone, since it has been shown that a hormone adrenoglomerulotropin produced in the region of the pineal gland influences the production of aldosterone.⁶ Aldosterone causes a decrease in renal sodium excretion. (In the present series 14 per cent were mentally retarded, 1 per cent had brain tumor and 3 per cent had meningitis.)

All the above factors may be compounded by the fact that a sick infant invariably fails to ingest adequate quantities of fluids. In addition, many are given boiled skim milk and other fluids high in electrolyte content as therapy for the diarrhea. Skim milk has a higher amino acid and electrolyte content per ounce than whole milk and therefore presents an additional solute load to the kidney at a time when the infant is less able to handle it. Even giving dilute hypotonic electrolyte solutions may not prevent the development of hypernatremia unless enough extra water is given to cover not only the diarrheal losses but also the increased insensible losses.⁷

CLINICAL DIAGNOSIS

Essential to an early diagnosis of hypernatremia is a physician with a high index of suspicion. Actually, the baby's appearance may be deceptively good until dehydration has become severe. Because two-thirds of the water lost in hypernatremic dehydration is intracellular water, the skin turgor may well be normal despite a loss of 10 per cent or more of the body weight.⁹ Also vascular collapse comes rather late in the disease since only one-third of the water loss involves the extracellular compartment. When vascular collapse (shock) does occur, it is likely to be precipitous and a late and ominous sign.

Symptoms referable to the central nervous system are frequent, especially pronounced irritability, muscular hypertonicity, convulsions and stupor. These symptoms may be so pronounced that the physician will suspect meningitis: and if a lumbar puncture is done, the spinal fluid protein is likely to be found to be elevated.¹¹

The initial history may lead the physician to suspect hypernatremia if he questions carefully as to exact fluid intake. Data from the present study indicate, however, that there are many instances in which hypernatremia cannot be predicted on the basis of the history and suggest that greater empha-

sis be placed on obtaining initial serum electrolyte determinations in any child with moderate to severe dehydration from any cause.

PATHOLOGIC PHYSIOLOGY

Why does a patient with hypernatremic dehydration have so many central nervous system manifestations? The degree of dehydration may not be any greater than in a patient with isotonic dehydration; and, yet, the hypernatremic patient is likely to have a more difficult time.

All hypertonic solutions produce tissue dehydration. Experimentally, the central nervous system symptoms produced by the infusion of hypertonic sodium solutions are, however, more severe than the symptoms due to the infusion of equally hypertonic solutions of sucrose or urea. This is presumably because sucrose and urea diffuse into central nervous system cells to equalize osmolarity; whereas, sodium does not.⁹ In order for the central nervous system cells to increase their osmolarity to that of the hypernatremic extracellular fluid, two things are thought to occur: (1) water leaves the central nervous system cells and (2) the intracellular proteins break down to form intracellular solutes (potassium and amino acids). The severe disruption of intracellular proteins could, of course, account for the drastic and sometimes permanent impairment of brain function.

Severely dehydrated hypernatremic infants (and kittens) are known to develop cerebral petechiae, subdural effusions, subdural hematomas and cerebral vein thrombosis.^{8,9} To what extent the vascular alterations are due to dehydration alone and to what extent they are due to combined dehydration and hypernatremia is not, at present, clear.

Physicians should be aware that central nervous system symptoms can be precipitated by infusing electrolyte-free or highly dilute fluids too rapidly during therapy. Sudden dilution of the extracellular fluid frequently initiates convulsions. Such convulsions have been terminated by reinfusing with hypertonic saline solution until the serum sodium returned to the same high level that was present before therapy was begun.²³

Even with optimal fluid therapy, a hypernatremic patient occasionally retains water in inappropriate amounts. When this occurs, the extracellular fluid volume overexpands and produces symptoms (such as convulsions, irritability, lethargy and unconsciousness). This was demonstrated by balance studies on 11 infants with hypernatremia and gastroenteritis. The five infants who had convulsions retained water inappropriately and formed a scant amount of urine after intravenous therapy was begun; whereas the six infants who did not become

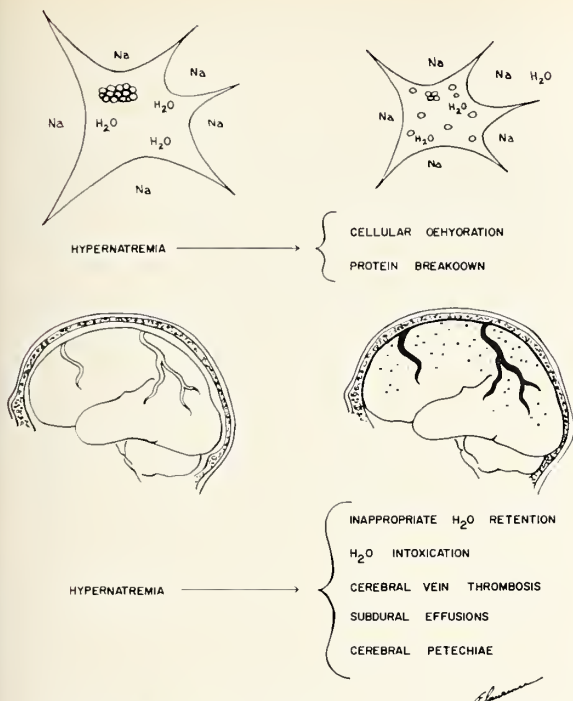


Figure 2.—Mechanisms by which a patient with hypernatremia develops central nervous system symptoms: The brain cells lose water and shrink and the intracellular protein molecules break down. The complications illustrated in the bottom half of the figure occur frequently.

severely ill and did not have convulsions began forming dilute urine as soon as intravenous therapy was begun.¹⁶

In dogs, experimentally induced hypernatremia (both with and without dehydration) produces renal tubular necrosis.¹² (In the one patient in the present series who died as a result of hypernatremic dehydration, hemorrhagic necrosis of the renal papillae was observed on postmortem examination.)

Aldosterone output (aiding retention of sodium) is increased in dogs dehydrated by inducing vomiting or withholding fluids; and there is some evidence that this also occurs in humans.¹⁴ If so, one wonders why hypernatremia does not occur even more frequently than it does.

REPORT OF STUDY

During a 13-month period at the Children's Hospital of the East Bay, 93 patients were reported to have serum sodium values of 150 mEq. per liter or more; in 20 the content was found to be 160 mEq. per liter or more; in two it was over 190 mEq. Fifty-six per cent of these hypernatremic patients were under one year of age. Most papers dealing with hypernatremia have emphasized the importance of diarrhea or of excess salt intake or both as predisposing to the development of elevated serum sodium concentrations. In the present study only a

TABLE 1.—Primary Diagnosis in 28 Living Patients with Hypernatremia

Na Over 150 mEq. per Liter	No. Cases
Dysautonomia	1
Pneumonia	1
Intussusception, volvulus	1
Pneumococcal sepsis	1
Pyloric stenosis	2
Diabetes	3
Exstrophy bladder, ureters in colon	1
Cystic fibrosis	1
Meningococemia	1
Acetyl salicylic acid ingestion	3
Milk allergy	3
Nephrosis	1
Meningoencephalitis	3
Burn	1
Hypophosphatemic rickets	1
Na Over 160 mEq. per Liter	
Tuberculosis, pulmonary	1
Megacolon, Fleet enema	1
Intussusception, volvulus	1
Cleft palate with otitis media	1

TABLE 2.—Primary Causes of Death in 16 Patients with Hypernatremia

Na Over 150 mEq. per Liter	No. Cases
Cystic fibrosis	1
Congenital heart disease	4
Chloromycetin intoxication	1
Renal disease	2
Leukemia	1
Arsenic intoxication	1
Volvulus, perforation	2
Pneumococcal pneumonia	1
Na Over 160 mEq. per Liter	
Brain tumor	1
Myocarditis	1
Dehydration, dural sinus thrombosis, subdural hematoma	1

slight majority (56 per cent) had diarrheal disease. Only four patients had a definite history of excess salt intake—two by oral intake of electrolyte solutions and two in parenteral fluids.

Table 1 lists the diagnoses in the surviving patients who did not have diarrheal disease. Table 2 lists the primary causes of death in 16 patients who died. Only one died as a direct result of hypernatremic dehydration. Necropsy revealed dural sinus thromboses, subdural hematomas and hemorrhagic necrosis of the renal papillae.

TREATMENT

Primary in the treatment of any severely dehydrated patient is the replacement of fluid losses by appropriate intravenous therapy.

If the patient is in shock, a compelling emergency exists; and the fluid given should be such as to expand the intravascular compartment even though on admission one may not know the state of hypernatremia or hyponatremia. Plasmanate®* has proved to be very useful in this regard. Plasmanate® re-

*Cutter, 5 per cent reconstituted human serum protein solution.

quires neither refrigerator storage nor the typing necessary for blood and does not carry the risk of transmitting hepatitis.

If the patient is not in shock, the safest solution for initial hydration is N/3 saline (0.3 per cent) in 5 per cent glucose solution while waiting for the laboratory to report initial electrolyte values. If the patient is hypernatremic, further therapy is planned to bring the electrolytes into balance slowly by using hypotonic (0.11 per cent to 0.2 per cent) saline in 5 per cent glucose solution. (This provides 17 to 30 mEq. of sodium per liter.) It is necessary that the hydrating solutions contain some sodium if water intoxication (which occurs relatively easily in hypernatremia) is to be avoided. There are fewer nervous system complications if rehydrating solutions contain from 15 to 45 mEq. of sodium per liter. The surviving patients in the present series, observed for 10 to 12 months after recovery, did not have mental damage.

In one case in the series apnea resulting from central nervous system depression was successfully treated with intermittent positive pressure breathing. Complete rehydration and correction of the serum sodium need not and should not be rapid. Actually, once a patient is out of shock, there is no need for haste; and, in fact, it is impossible to correct severe hypernatremia rapidly. Patients do best when the serum sodium content is gradually brought back to normal over a period of two or three days.

A rough estimate of the degree of dehydration can be made if the patient's weight immediately before the dehydrating episode is known. If an infant is calculated to be over "10 per cent dehydrated" (10 per cent weight loss), he will need about 100 ml. of fluid per pound of body weight for the first day; if between 5 and 10 per cent dehydrated, about 80 ml. per pound for the first day; and if less than 5 per cent dehydrated, about 60 ml. per pound.

By the second or third day, when rehydration is well under way, the quantities of fluids required are reduced to approximately the amounts shown in Table 3.

All fluid therapy must be evaluated daily, and sometimes on an hourly basis, depending on the patient's output and the serum electrolyte determinations. All forms of fluid output must be considered: urine, diarrhea, sweating, hyperventilation, emesis and fluid suctioned off from the gastrointestinal tract.

If the patient is both dehydrated and in heart failure—as sometimes occurs, digoxin is used along with intravenous fluids. Both the heart failure and the dehydration must be treated simultaneously. Digoxin is preferred for infants and children because of its quick action and fairly rapid elimina-

TABLE 3.—Amount of Fluid 10.2 Per Cent Saline in 5 Per Cent Glucose Required Daily for Normal Maintenance of Hypernatremic Patients

	Milliliters per Day	
	Per Pound of Body	Per Kg. of Body
Premature infants over 7 days old....	75	or 150
Infants under 1 year.....	60	125-150
Children 1 to 5 years.....	50	100-125
Children 5 to 10 years.....	30-40	75-100
Once renal function is established, add potassium in amounts of 3 mEq. per kg. of body weight.		

TABLE 4.—Caloric, Sodium and Potassium Content of Fluids Commonly Given to Infants

	Calories per Liter	Na mEq./l	K mEq./l	Mg. N/l
Human milk	650	7	14	1920
Cow's milk (whole) 670		22	36	5300
Cow's milk (skim) .. 375		23	37	
Orange juice	500	0.2	49	
Apple juice	480	1.7	26	
Pineapple juice	500	0.2	36	
Ginger ale	360	3.5	0.1	
Coca-Cola.....	435	0.4	13	
Lytren®*	280	50	20	

* A concentrated solution of electrolytes.

tion. For infants under two years of age, the digitalizing dose is 0.03 to 0.04 mg. per pound of body weight. Half that amount is given as the first dose, with the remainder divided equally and given at eight-hour intervals or more frequently, according to need. For older children, the digitalizing dose is 0.02 to 0.03 mg. per pound of body weight. The maintenance digoxin dose is from one-fifth to one-third of the total digitalizing dose per day.

The sequence of events in the treatment can be summarized as follows: Evaluating of the degree of dehydration; determining whether shock or heart failure is present; determining the electrolyte contents of the blood. Then initial intravenous fluid therapy: Plasmanate® (plasma substitute) if the patient is in shock; otherwise, 0.3 per cent saline in 5 per cent glucose solution while awaiting laboratory reports.

After renal function is established (urination), potassium is added in amount of 3 mEq. per kilogram of body weight per day (not to exceed 40 mEq. per liter) to the intravenous fluids until oral feedings are established.

Other supportive measures that may be needed are: digoxin, if in heart failure; antibiotics, if bacterial infection suspected; calcium gluconate, for tetany which may occur when the acidosis is corrected and the serum calcium is low or borderline; intermittent positive pressure breathing for respiratory failure; subdural taps, if there is persistent unexplained fever or continued convulsion; and phenobarbital or other anticonvulsants.

PREVENTION

Foremost in the prevention of hypernatremia is an awareness on the part of all physicians that this condition is fairly common (occurring in 10 to 33 per cent of infants put in hospital for diarrhea) and the realization that it results from a combination of factors including diminished intake of water, diarrhea, hyperventilation, sweating, excessive salt intake and protein breakdown. Prevention begins at home as soon as the physician is aware that the child is ill. The mother should encourage the child to maintain adequate fluid intake, and this fluid should contain a lower concentration of salt than the patient normally takes. This is necessary in order to provide fluid for the increased insensible losses (through the skin and lungs) that occur with illness of any kind. Both skim and whole milk contain salt (Table 4). In order to provide extra water during illness, the mother should dilute the milk and add sugar. The extra sugar will help to delay tissue breakdown and at the same time make the milk more palatable. Fruit juices, ginger ale and Coca-Cola contain about a tenth as much sodium as milk and are very useful supplements or substitutes for milk when infants and children are ill.

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ACKNOWLEDGMENT: The author wishes to express her sincere appreciation to Doctors James L. Dennia and Arild Hansen for their many helpful suggestions in the preparation of this paper.

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A New Corticoid for Topical Therapy

Fluocinolone Acetonide

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THIS IS A REPORT of the results of the use of fluocinolone acetonide* as a topical treatment of 67 patients with various inflammatory disorders of the skin. The only published report at the time of this writing on the clinical use of this compound is that of Robinson,³ who found it to be as effective as triamcinolone acetonide and superior to hydrocortisone in the topical therapy of eczematous dermatoses. The chemical make-up of fluocinolone acetonide was discussed in a report by Mills and coworkers.²

In the present study the compound was used in a water-miscible vanishing cream base in a concentration of 0.025 per cent. Patients were instructed to apply it lightly three times a day and to massage gently and thoroughly until the cream disappeared.

All the patients were observed in private practice in the office. Many had been observed for several years, and the great majority had chronic recurrent dermatosis in the general category of eczematous dermatitis and had been treated either in the present or past episodes by a variety of currently available methods of therapy, including systemic and topical use of corticosteroids.

CONDITIONS FOR EVALUATION

Evaluation of treatment of acute dermatitis is difficult because so many acute lesions clear spontaneously when the eliciting cause is no longer operating. For this reason, in the beginning of this study we selected only chronic and subacute lesions which had been present for months, and in some instances for years, and which had been resistant to previously applied topical corticosteroids. Furthermore, only two classifications of results were used; one was "very effective with complete clearing of treated lesions" and the other was "not effective" (which included no response or partial response). Use of these absolutes eliminated subjective factors

• Sixty-seven patients with chronic and subacute cutaneous lesions of varying long duration that had previously been resistant to topical use of corticosteroid compounds were treated with a cream containing fluocinolone acetonide. To avoid subjective bias, only two classifications were used in appraising results: "complete clearing of treated lesions" and "not effective."

Forty-eight patients had complete clearing of the treated area. Results were best in atopic dermatitis, chronic eczematous dermatitis and nummular dermatitis. Granuloma annulare, dyshidrotic dermatitis of the palms and psoriasis were not affected.

In some cases in which there were multiple lesions some of the lesions were treated with fluocinolone acetonide cream and some were treated concurrently with other corticoid ointments or with noncorticoid compounds, either bland or with active ingredients. Fluocinolone was effective in more than twice as many cases as the other agents.

In some of the patients with chronic disease it was possible to greatly reduce or discontinue systemic steroid therapy after fluocinolone acetonide became available.

No untoward effects were observed.

—such as "wishful thinking"—from the appraisal of results.

The relative effectiveness of the compound under discussion was demonstrated in the following ways:

1. It was used on given lesions in patients with multiple lesions and the result was compared with the effectiveness of other standard corticoids used on comparable lesions concurrently.
2. It was used in patients with single chronic lesions in certain cases in which all previously available local and systemic therapy had failed.
3. In patients with multiple lesions, it was used on given lesions, while with other noncorticoid therapy (either bland or other) used concurrently on existing comparable lesions.

CLINICAL RESULTS

Of 67 patients treated (Table 1) 60 had dermatosis of a nature that might be expected to respond to corticoid therapy^{1,4}—namely, the general cate-

Presented before the Section on Dermatology and Syphilology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

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*Fluocinolone acetonide (6 α ,9 α -difluoro-16 α -hydroxy-prednisolone-16, 17 acetonide), kindly supplied, as Synalar® by Syntex Laboratories, Inc., 10 East 40th Street, New York 16.

TABLE 1.—Results of Treatment of Various Kinds of Dermatoses with Applications of Fluocinolone Acetonide Compound

Diagnosis	Number of Cases	Results	
		Very Effective (Complete Clearing of Treated Lesions)	Not Effective (Partial or No Response)
Atopic dermatitis ("disseminated neurodermatitis")	16	14	2
Nummular dermatitis	12	11	1
Chronic eczematous dermatitis (unclassified)	14	11	3
Chronic lichenified (dry) dermatitis (lichen simplex or "localized neurodermatitis")	4	2	2
Seborrheic dermatitis	5	5	0
Acute and subacute contact dermatitis	5	4	1
Infectious eczematoid dermatitis (includes otitis externa, 1 case)	2	1	1
Dyshidrotic dermatitis of the palms	2	0	2
Psoriasis	3	0	3
Granuloma annulare	1	0	1
Chronic lupus erythematosus	3	0*	3*

*These three patients showed partial response. Since then, four additional patients have shown prompt and complete clearing. Further experience is needed for valid conclusions.

gory of eczematous dermatitis. Forty-eight of the 60 showed excellent response. In 45 of the patients, the compound under study was compared with one or more of the corticoids currently in clinical use. These included hydrocortisone, triamcinolone and dexamethasone. In 32 of the 45, results with fluocinolone acetonide were better than with the other corticoid; in 11 cases, it was considered equal to the compound with which it was compared (neither having any effect in four of these cases, and both being effective in seven). In two cases of the 45, fluocinolone acetonide was found to be not as effective as the drug with which it was compared—(triamcinolone in one case and hydrocortisone in the other).

The point should be made that what is reported here is the response of individual lesions to treatment, and it is not to be assumed that clearing of lesions means curing of the disease. It is obvious that the clearing of given lesions (in seborrheic dermatitis, for example) does not mean that the disease had been cured. The same principle applies to many cases in this group. Many of the patients have since had new lesions at other sites, which have responded equally well to the same treatment. However, in some patients in this group with chronic disease it has been possible to greatly reduce or completely eliminate the systemic use of steroids since fluocinolone acetonide has become available, topical therapy alone healing new lesions for these patients.

COMPLICATIONS AND REACTIONS

In only one of the 67 patients was there some question of local irritation attributable to the fluocinolone acetonide compound. Results of patch tests with the substance in that patient were negative,

and after a rest period of one week the compound was used again, without difficulty. Five patients used the compound almost daily for five months without sign of irritation or sensitization. Nothing that could be interpreted as a systemic effect was noted in any of the patients. No chemical studies of body fluids with this in mind were done, however.

DISCUSSION

Fluocinolone acetonide appears to be a highly effective agent for the topical therapy of inflammatory dermatosis, especially that of eczematous character. It was consistently effective in nummular dermatitis and seborrheic dermatitis, frequently effective in atopic dermatitis and chronic nonspecific eczematous dermatitis; and apparently (on the basis of limited experience) it has a striking effect in acute contact dermatitis.

It was not effective in the treatment of psoriasis, granuloma annulare, or dyshidrotic dermatitis of the palms. Of special interest is its possible effect on chronic cutaneous lupus erythematosus. When adrenal corticosteroids were first introduced for topical use, there were some reports and experiences which indicated that they might be useful in healing individual lesions of chronic cutaneous lupus erythematosus. My experience with three patients indicates that there may be some effect (Table 1).

Seven of the 12 patients who were not benefited by topical therapy with fluocinolone acetonide had complete but temporary subsidence of lesions while receiving systemic steroid therapy.

This compound appears to produce results with topical application that are comparable to those brought about with systemic corticoid therapy. In the present series responses were noted that were

as dramatic as those sometimes observed with systemically administered steroids but rarely occurring with topical therapy available up to the present.

960 East Green Street, Pasadena.

NOTE: Since the preparation of this paper, the compound has been highly effective in more than 80 per cent of 260 additional patients. When used as an occlusive dressing, lesions of psoriasis responded rapidly. This will be reported in a separate communication.

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Aspiration of Breast Cysts

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FOR YEARS medical students have been taught that every lump in the breast should be biopsied. This dogma is so widely accepted that apparently many surgeons are reluctant to oppose it. Rosemond and coworkers²⁰ reported that in June, 1954, at a meeting of the Committee for the Study of Delay in the Diagnosis of Breast Carcinoma for Philadelphia County, a vote was taken on the advisability of aspiration of breast cysts. Six members voted against aspiration, three voted for aspiration, and three members abstained from voting.

Aspiration of breast cysts is so simple and safe a diagnostic tool that it is amazing this procedure has not met with universal approval. One could hardly improve on Mathew's¹⁷ statement: "The immediate relief that aspiration of a cyst gives to the frightened patient who has discovered a breast tumor is almost beyond belief. There are few occasions in a surgeon's career when he can give such immediate relief to mental suffering, establish a diagnosis, and usually cure the patient."

HISTORY

In 1899, Bull² recommended aspiration of breast cysts and reported 14 cases. He stated that puncture of a cyst with a needle and drawing the contents into a hypodermic syringe should never be neglected. He recommended excision only if the cyst refilled or in case of an unusually large single cyst or multiple cysts, or if the patient was of an exceptionally nervous type. In 1903, Abbe¹ reported using the technique for ten years and recorded 41 cases.

Since those early reports, there have been a dozen or so papers specifically dealing with aspiration of breast cysts or at least mentioning the procedure. Johnston's¹⁴ report in 1954 was particularly good. He reported 45 cases in which the patients were carefully observed afterward. Olch's¹⁸ report of 229 patients he personally observed after aspiration, the largest series in the literature, is also well worth reading.

METHOD

Although the dictum that any "dominant lump" must be investigated is excellent, the term might

- In 1,364 cases of breast cyst aspiration reported in the literature, there is no note of a missed diagnosis of carcinoma.

The author carried out needle aspiration in 80 patients with a definite mass in the breast as a therapeutic or diagnostic procedure.

A diagnosis must be established for every definite mass in the breast and needle aspiration is a logical diagnostic procedure. If the needle encounters a solid mass, the mass must be removed for biopsy. If the needle encounters a cyst containing fluid, the fluid should be removed completely. A biopsy specimen then should be taken from the mass if (a) the fluid is bloody, (b) the mass does not entirely disappear, or (c) the mass recurs promptly. Adherence to these rules will keep the examining physician from missing a carcinoma within the cyst.

Aspiration of breast cysts is a simple and safe diagnostic and therapeutic procedure that saves the patient distress and money.

possibly be construed to mean that where there is more than one lump in the breast, only the "dominant" one need be investigated. I prefer the principle be stated: Any definite mass must be investigated.

It is only when there is a definite mass in the breast that the surgeon becomes directly concerned. The physician making an examination in these circumstances must exercise all his skill in palpating the breast in question and must investigate every "definite mass." If there is doubt in his mind whether one is there or not, he may have to treat an indefinite area as a "definite mass." He must never become so clever as to assign the function of the microscope to the tips of his fingers.

For all practical purposes there is really only one breast lesion which is important to the patient and the doctor—cancer (or sarcoma), for it is the only one that might be fatal. Benign tumors, cystic disease, abscesses and the more rare lesions, such as those of tuberculosis, are not of fatal significance. In fact, cystic disease tends to be self-limited.

When a physician has determined that there is a "definite mass" in the breast, it is his responsibility to determine its nature. If a lesion is quite obviously carcinoma, there is no reason for introducing a needle into it unless one believes in the use of this technique for biopsy. However, if there is question whether the lesion is malignant or not, it is excellent practice to introduce a needle into the mass.

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Presented before the Section on General Surgery at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

After appropriate skin preparation, a small skin wheal is raised by injection of a 2 per cent local anesthetic solution beneath the skin over the mass. Then a tiny nick in the skin is made with a No. 11 scalpel. This will allow the needle to be introduced beneath the skin without undue pressure. If excess pressure is needed, the needle may miss the mass because of inaccurate guidance after it passes through the skin. A sharp No. 18 needle connected to a dry syringe is used for the larger masses. A sharp No. 20 needle is used for the smaller masses. The syringe is dry so that even a few drops of cystic fluid will be seen and not confused with any other liquid that might be present. A fresh, dry needle and syringe is used for each separate mass if there are more than one.

After the needle is introduced through the skin, the surgeon holds the lesion immobile by pressing with his fingers. Occasionally a small, movable or deeply placed lesion will be difficult to hold still enough for insertion of the needle. In such cases an assistant can help hold it. If there is fluid present in the mass, it is usually under considerable pressure and, as soon as the needle reaches it, will enter the syringe, pushing back the plunger. All the fluid in the cyst can be emptied by aspiration and by gentle pressure on the cyst wall.

If no fluid is obtained, the surgeon must make sure that the needle is in the mass. This may be done by manipulating the syringe so as to move the needle back and forth. If the needle is in the mass, the mass will move as it does. By following this technique, one can become adept at hitting masses that are only a few millimeters in diameter and are deeply placed in the breast.

Excision of the mass is recommended if (a) it is solid, (b) bloody fluid is obtained, or (c) the mass does not disappear after aspiration. These contingencies are explained to the patient beforehand and the aspiration is not done unless she promises to abide by these principles.

The patient is asked to return in approximately two weeks after the procedure. This, too, she must promise beforehand. At the time of her return, the breast is carefully examined again. If at this time there is suspicion that the mass has not entirely disappeared, breast biopsy is recommended. However, if there is no evidence of the mass, the patient is carefully instructed in self-examination of the breasts and is given a U. S. Public Health Service pamphlet (No. 48) on breast self-examination. She is instructed to return immediately if there is any question in her mind about a new mass. In any event, she is asked to return in three months for further examination and for review of her ability to examine her own breasts. At the end of the three

months' period she is advised to return for breast examination every six months.

Many of these patients do return with more cysts. Blue dome cysts ordinarily do not have an epithelial lining, but sometimes the old cysts reaccumulate fluid. Aspiration is done in exactly the same manner as was done originally.

Many tense cysts feel extremely hard and may be thought to be fibroadenomas or carcinomas. The use of the needle is an excellent method of differentiating between a solid mass and a cystic mass. It is important that the physician ultimately responsible for the treatment of the patient be the one who employs this diagnostic procedure. His judgment cannot be perfect unless he is personally aware of all the pertinent findings such as the character of the mass before aspiration, the appearance of any fluid obtained and the character of any residual suspicious tissue.

MATERIAL

Eighty patients with definite masses were examined by the needle aspiration technique and were observed for one to eight years afterward. Fluid was obtained from the masses in 41 patients varying in age from 34 years to 57 years, the average being 41 years. Thirty-four of the 41 patients required no procedure but aspiration. However, many of them have had multiple cyst aspirations. In four of the patients the mass did not entirely disappear; breast biopsy was done and cystic disease was found. In one case Papanicolaou examination of the fluid obtained was equivocal. The patient was operated upon and cystic disease was present. In two patients the fluid was bloody; these patients were both operated upon and intracystic papillary disease was found.

In 39 patients the mass was solid, no fluid being aspirated, and breast biopsy was done. Twenty-one of these patients had a fibroadenoma and two a fibrolipoma. The average age of these patients was 39 years. Five of the patients with solid masses were found to have fibrocystic disease, and the other had sclerosing adenosis. One patient had physiological hyperplasia of the breast due to pregnancy, and one patient did not return for biopsy as instructed. She was the only patient in the series who was lost to observation. Eight of the patients had carcinoma—in each instance a small lesion which could have been a fibroadenoma or a cyst. The average age of patients was 49 years.

Among the patients with cysts, from one to four cysts were aspirated on the first visit. Fifteen patients (36 per cent) returned for further aspirations. One of these patients had 21 aspirations. Finally, because of the patient's worry about her breasts and the necessity for frequent office visits for aspiration, she and her husband decided that she would prefer

TABLE 1.—Reports of Aspiration of Breast Cysts Since 1899

Author	Year	No. of Patients	Patients with Cancer of Breast
Bull ²	1899	14	0
Abbe ¹	1903	41	0
Mathews ¹⁷	1936	50	0
VandenBerg ²⁴	1946	57	1 (opposite breast)
Fitts and Donald ⁶	1949	22	0
Saltzstein and Pollock ²¹	1949	9	0.
Kilgore and coworkers ¹⁵	1953	150	1 (same breast—not in cyst)
			1 (in cyst)
Patey and Nurrick ¹⁹	1953	65	1 (opposite breast)
Johnston ¹⁴	1954	45	0
Goode and coworkers ⁹	1955	202	0
Gould ¹⁰	1955	122	1 (opposite breast)
			1 (same breast—not in cyst)
			1 (in cyst)
Rosemond ²⁰	1955	150	1 (opposite breast)
			1 (same breast—not in cyst)
			2 (in cyst)
Hendrick ¹¹	1958	167	0
Olch ¹⁸	1959	229	1 (same breast—not in cyst)
Gaspar.....	1960	41	0
		1364	12 (4—opposite breast)
			(4—same breast—not in cyst)
			(4—in cyst)

to have a bilateral simple mastectomy. This was done. Careful pathological examination of the breasts showed cystic disease only.

In addition to the one patient who had 21 aspirations, one patient had 17 aspirations, two patients had 13, one had nine and two patients had eight. Three patients had aspirations on four occasions; three patients on three occasions; and two patients on two occasions.

From 0.3 to 60 milliliters of fluid was obtained from individual cysts. The average cyst contained approximately seven milliliters of fluid. In color, the fluid varied from slightly opalescent pale, greyish to dark green and turbid. Papanicolaou examination of aspirated fluid was done in 19 cases. Usually they were reported as showing some granular debris and a few degenerated epithelial cells. Cells that were interpreted as being suspicious of carcinoma were seen in one specimen. Because of this, biopsy was done. A cyst with a mild inflammatory reaction in its wall was found. As Papanicolaou examination of cyst fluid generally has been unrewarding, this procedure has been abandoned.

When the tumors were solid, strong traction was applied to the plunger of the syringe in an effort to draw tissue juice into the needle. If juice was obtained, it was smeared on a slide and a Papanicolaou stain was made. In one instance this showed cells typical of carcinoma. In other instances it was not helpful.

COLLECTED SERIES

Table 1 shows the reports of cyst aspiration that have been made since Bull's first report in 1899, a total of 1,364 cases. In 12 of these cases (0.88 per

cent) carcinoma was found—four times within the cyst, four times in the same breast as that containing the cyst but not in the area of the cyst, and four times in the opposite breast. Dublin (cited by Copeland)^{4,5} said that the incidence of breast carcinoma in women in general, age not considered, was 0.42 per cent. Inasmuch as the average age of the patients with cysts in the present series was 41 years, which is comparable with that in other reported series, it is probable that the incidence of carcinoma in this age group would be considerably higher than 0.42 per cent. Hodge and coworkers¹² reported that the incidence of development of breast carcinoma in the adult female population is greater than 2.1 per cent and nearer 4.0 per cent.¹³

The important point is that in 1,364 women who had breast cysts aspirated, apparently no carcinomatous tumors were missed. In fact, I have found no report of a case in which carcinoma was missed because of aspiration of a breast cyst. Rosemond²⁰ reported that in the two cases in which he found a carcinoma within a cyst, the malignant lesion possibly was discovered earlier than it might otherwise have been. (The possibility would seem to be a slim one, however, for if aspiration had not been done, biopsy surely would have been carried out because of the presence of the mass.) It is possible that there are unreported cases in which carcinoma was overlooked in patients who had cyst aspiration. If such cases exist, they should be reported. However, it is extremely unlikely that such cases occur if the rules previously laid down are strictly followed—especially, the rule that the physician must satisfy himself the mass has entirely disappeared after aspiration of the cyst.

In 1959, the U. S. Defense Department²³ published data on the actual cost of dealing with various diseases and procedures in hospital under the Medicare Program. Breast biopsy was listed as costing \$200. This included the normal charges of the surgeon, anesthesiologist, hospital and laboratory. No comparable data on the cost of cyst aspiration are available, but undoubtedly many physicians are carrying out the procedure in their offices daily—at a considerable saving to the patient.

RELATION BETWEEN CYSTIC DISEASE AND CARCINOMA

Although the present study was not designed to elucidate the relationship between breast carcinoma and cystic disease, it is inevitable that this aspect must be considered in order to give intelligent counsel to patients. The question has been debated in the surgical literature for years. Most observers seem convinced that the possibility of breast carcinoma developing in a group of women with cystic disease is somewhat larger than in a similar age group without cystic disease.

Warren,²⁵ in a monumental study, concluded that the expected rate of cancer development in women with cystic disease was 4.5 times as great as in women without cystic disease. Clagett and co-workers³ arrived at a very similar figure. Lewison and Lyons,¹⁶ in a good study of 335 women with benign breast disease followed for an average of 13.6 years, found seven carcinomas, an incidence of 1.8 per cent. One hundred and fifty-three of the women had chronic cystic mastitis, and four of these had carcinoma, an incidence of 2.6 per cent. This was calculated as being from 2.6 to 3.6 times as great an incidence of carcinoma as the expected rate. Frantz and associates,⁷ in an excellent study of 225 postmortem examinations found an incidence of chronic mastitis of 52 per cent.

Statistical studies of this sort are very difficult to make and to interpret. They depend so much upon the sample of the population studied and the analytical methods used. An exact answer to the problem can probably never be made unless a large number of women with cystic disease, perhaps a thousand or more, are observed for their lifetime with careful microscopic examination of the breasts at surgical operation or after death. They would have to be compared with a similar group of women without cystic disease. This seems an impossible task.

I tend to agree with Stout,²² who said: "The writer is not yet ready to accept the reported increased rate as settled until the actual breast carcinoma development rate in the female population is on a firmer basis. The writer does not wish to leave

the impression that he does not believe that cystic disease with hyperplasia does not provide a more favorable condition for the development of carcinoma of the breast than its absence—he simply wishes to indicate that he has not yet been offered proof convincing to him that this is so."

INTRACYSTIC CARCINOMA OF THE BREAST

Intracystic carcinoma of the breast is a rather rare lesion that has not been reported upon frequently, although usually mentioned in pathological texts. Gatchell, Dockerty and Clagett⁸ observed 48 such lesions in 9,000 cases of breast carcinoma at the Mayo Clinic over a 35-year period. This was an incidence of 0.5 per cent. They were studying pathological specimens and consequently did not mention the type of fluid contained within the cyst. However, the cysts varied in size from 1.5 to 10 cm. in diameter. Intracystic carcinoma tended to be somewhat less malignant than the usual carcinoma; the five-year survival rate was 83 per cent. Almost certainly this type of carcinoma would not be missed by aspiration if the rules previously laid down were carefully followed.

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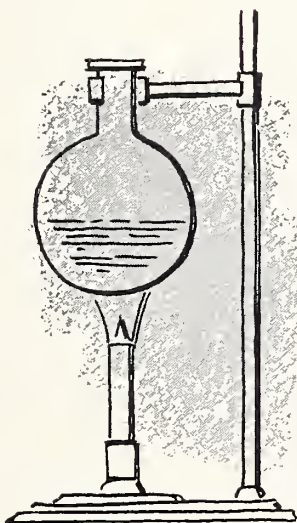
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Closed System Administration of Fluothane®*

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THE INTRODUCTION of Fluothane® by Raventos¹⁴ and Johnstone⁹ in 1956 made available a potent nonexplosive anesthetic agent. It was made available for use in the United States in 1958. Many clinical and laboratory reports have confirmed its usefulness, advantages and hazards. Ability to control the inspired concentration of Fluothane over a very narrow range is the most critical factor in its safe administration. In order to meet this requirement most investigators have stressed the use of nonrebreathing or partial rebreathing systems, and special vaporizers have been developed for this purpose.^{8,13,16} The objections to these high flow inhalation techniques are that they are costly and wasteful of gases and Fluothane, that they are too complex and that the constantly full anesthesia bag makes it difficult to judge the patient's respiratory exchange. Since other potent anesthetic agents are administered safely in closed rebreathing systems, there would not appear to be any reason why Fluothane could not also be administered in this manner. This paper reviews the author's experience with administration of Fluothane in a completely closed rebreathing system in 518 consecutive cases.

METHODS

Patients were premedicated with scopolamine (0.2 to 0.4 mg.) and in most instances 25 to 50 mg. of meperidine. In elderly patients, atropine was sometimes substituted for scopolamine. Thiopental sodium (75 to 250 mg.) intravenously was used to facilitate induction, and was followed by a 4-liter flow of 2 to 4 per cent Fluothane in oxygen. Surgical anesthesia was usually achieved in 3 to 7 minutes. Single doses of succinylcholine (30 to 60 mg.) or Flaxedil®† (up to 0.5 mg. per pound of body weight) were used only to facilitate tracheal intubation or relaxation for upper abdominal operations. At the completion of induction or intubation, the oxygen flow was reduced to basal metabolic requirements (100 to 250 cc. per minute) with Fluothane added as required. Respirations were manually assisted in most patients.

*A brand of 1,1,1, Trifluoro-2,2, bromochlorethane.

Presented before the Section on Anesthesiology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

†Flaxedil is a brand of gallamine triethiodide.

• Fluothane® was administered in a closed system to 518 surgical patients. No morbidity or mortality was attributable to using Fluothane by this technique. Requisites for safe administration of Fluothane in a closed system include (1) an understanding of the basic concepts of closed systems, (2) a vaporizer outside of the breathing circuit which will accurately and dependably deliver precise amounts (in a range of 10 to 60 cc.) of oxygen saturated with Fluothane, and (3) a thermally stable vaporizer.

If the demands for safe operation are met, Fluothane anesthesia with the closed system technique becomes the simplest, most economical and effective method for general anesthesia in adults.

Foregger anesthetic machines with "copper kettles"¹² and circle filters of jumbo type were used. Oxygen flowmeters to the "copper kettles" were specifically selected to provide easy readability, in increments of 5 cc. of flows from 5 to 30 cc. per minute, and increments of 25 cc. from 30 cc. to 350 cc. per minute. Performance of the vaporizers was monitored with an oxygen analyzer (Beckman) and a thermistor indicating thermometer. During vaporization the temperature of the "kettles" did not vary significantly from room temperature, and the outflow at 20°C. contained 34 per cent Fluothane. This is in agreement with the findings of Feldman and Morris for similar apparatus.⁶

Blood pressure was estimated by the oscillometric method. Cardiac rate and rhythm were continuously monitored with a cardiograph in 399 cases, and with a stethoscope in the remainder.

CLINICAL MATERIALS

The patients in this study were dealt with in the author's private practice of anesthesiology in two small general hospitals. Included were all patients to whom Fluothane was administered in a closed system during the years 1959 and 1960. During this period the only patients receiving general anesthesia by other techniques or agents were children under 10 years of age, obstetrical patients and patients whose operations were expected to last less than 30 minutes.

The patients ranged in age from 4 to 92 years and were classified according to physical status

TABLE 1.—Data on Patients Undergoing Fluothane Anesthesia in a Closed System, by Age and Physical Status (Risk).

Age	Number of Patients	Physical Status of Patients	
		A.S.A. Classification	Number of Patients in Class
0 to 5 years	2	1	219
6 to 10 years	8	2	174
11 to 20 years	56	3	42
21 to 30 years	56	4	0
31 to 40 years	92	5	61
41 to 50 years	103	6	22
51 to 60 years	77		
61 to 70 years	83		518
Over 70 years	41		
Total	518		

(American Society of Anesthesiologists classification), 1 through 6 (Table 1). Preoperative complications which did not preclude the use of general anesthesia, did not preclude the use of Fluothane. The most common preoperative complications were respiratory diseases, and secondly diseases of the cardiovascular system. Hypovolemia was not considered a contraindication to the use of Fluothane. Surgical procedures of all types, with the exception of obstetrical operations, on all sites of the body were included in the series (Table 2). The duration of anesthesia ranged from 20 minutes to 8 hours; in most cases it was between 1 and 3 hours (Table 3).

RESULTS

Induction. Induction was smooth, rapid and noticeably lacking in laryngospasm, stridor or excess secretions. Surgical levels of anesthesia were achieved in 3 to 7 minutes, but pharyngeal and laryngeal reflexes were obtunded early. Tracheal intubation could be carried out in 5 to 10 minutes with Fluothane alone, and in a shorter time if succinylcholine or Flaxedil was used. The time available for tracheal intubation with Fluothane alone is rather brief, and the use of relaxants eases the job and reduces the incidence of "bucking" on the tube. *Maintenance.* During maintenance the flow of oxygen was set at the estimated basal metabolic

TABLE 3.—Duration of Anesthesia with Fluothane in a Closed System.

Duration of Anesthesia	Patients	
	Number	Per Cent
0 to 1/2 hour	8	1.5
1/2 to 1 hour	82	16
1 to 2 hours	191	37
2 to 3 hours	157	30
3 to 4 hours	52	10
Over 4 hours	28	5.5
Total	518	100.0

requirements of 100 to 250 cc. per minute, and oxygen with Fluothane was added from the "copper kettle" as indicated by clinical demand. In the vast majority of patients a flow of 20 to 40 cc. of oxygen through the "kettle" would suffice to provide a steady level of surgical anesthesia throughout operation. Maintenance rates varied, however, from 10 cc. to 60 cc. per minute. The only consistent indicator of deepening anesthesia was a fall in blood pressure, and even this was misleading if there was minimal surgical stimulation. In general, changes in the rate of Fluothane administration were minimal once operation was under way. Excellent operating conditions were provided in every case, and it was never necessary to abandon the use of Fluothane or add another anesthetic agent. Fluothane was discontinued during the last 20 minutes of operation or after the peritoneum was closed. Patients generally had return of pharyngeal reflexes by the end of the procedure and responded to vocal commands within the first postoperative half hour. *Muscular relaxation.* Sufficient relaxation for tracheal intubation and for all operative procedure except in the upper abdomen could readily be produced with Fluothane alone. A saving of about 4 minutes in the induction to intubation time could be gained with the use of relaxant drugs, and therefore 215 of the 288 patients intubated received such an agent (Table 4). Succinylcholine in a single dose of 30 to 60 mg. was given before intubation in cases in which not much relaxation would be required for the op-

TABLE 2.—Data on Patients Undergoing Fluothane Anesthesia in a Closed System, as to Surgical Service and Site of Operation.

	Head Neck	Trunk	Thorax	Abdomen	Perineum	Extremity	Totals
SERVICE:	142	75	24	171	32	74	
Eye	5	---	---	---	---	---	5
ENT	99	---	---	---	---	---	99
Plastic	13	4	---	---	---	11	28
Neurosurgical	10	9	---	---	---	---	19
Urological	---	7	---	2	22	---	31
General	15	54	4	142	3	17	235
Thoracic	---	---	20	---	---	---	20
Orthopedic	---	1	---	---	---	46	47
Gynecological	---	---	---	27	7	---	34

TABLE 4.—Use of Tracheal Intubation and Muscle Relaxants as Related to Site of Operations in Patients Undergoing Fluothane Anesthesia in a Closed System.

Site of Operation	Number of Patients	Number Intubated	Succinylcholine	Flaxedil
Head-neck	142	142	76	3
Trunk	75	19	8	6
Thorax	24	24	6	12
Abdomen	171	98	14	86
Perineum	32	0	0	3
Extremity	74	5	4	0
Totals	518	288	108	110

TABLE 5.—Relationship of Age to the Occurrence of Arterial Systolic Hypotension with a Fall of Greater than 25 per cent in Systolic Pressure.

Age of Patients	Number of Patients	Number with Hypotension	Per Cent with Hypotension
0 to 10 years	10	0	0
11 to 20 years	56	0	0
21 to 30 years	56	3	5
31 to 40 years	92	4	5
41 to 50 years	103	8	8
51 to 60 years	77	14	18
61 to 70 years	83	25	33
Over 70 years	41	9	20
Total	518	63	12% (Average)

eration, and Flaxedil in single doses of less than 0.5 mg. per pound of body weight was administered if the procedure was to necessitate considerable relaxation. Of 110 patients receiving Flaxedil, 95 had upper abdominal or thoracoabdominal operations. The tachycardia from these doses of Flaxedil was helpful in reducing the tendency toward bradycardia due to Fluothane. Pulse rates over 120 per minute were rarely seen and usually subsided within 20 minutes.

Repeated doses of either Flaxedil or succinylcholine were not given, and the effect of the relaxant was completely gone by the termination of the procedure. Antagonists were never indicated or used, and no cases of postanesthetic muscle depression were noted. Closure of abdominal incisions was possible with Fluothane alone in every case.

Secretions. There was a notable lack of salivary and bronchial secretions, as is usual with Fluothane anesthesia. The extreme dryness of the mucosa required special attention to the lubrication of airways to prevent mucosal tearing. Need for preoperative and early postoperative suction was almost eliminated.

Respiratory effects. In levels of anesthesia used in this series there was an apparent decrease in spontaneous minute ventilation except in very light levels. There was a tendency toward tachypnea when surgical stimulation was severe. Assisted or controlled ventilation was used in most patients

throughout anesthesia. Posthyperecapnic hypotension was not observed.

Patients with emphysema or asthma tolerated Fluothane anesthesia well. Bronchospasm present before induction usually disappeared during Fluothane anesthesia. In no case did bronchospasm appear or get worse during anesthesia.

Cardiovascular effects. A decrease in systolic blood pressure of 10 to 20 per cent below the preanesthetic level almost always accompanied induction. This usually rapidly reversed after intubation or upon surgical stimulation. During maintenance, the systolic blood pressure was usually stable at about 10 per cent below the preanesthetic level. Hypotension, when it occurred, usually came on gradually, except when induced by traction reflexes. Hypertension was uncommon and never persisted more than 20 minutes.

Falls in systolic pressure greater than 25 per cent of the preanesthetic level and lasting more than 5 minutes occurred in 12 per cent of the patients (Table 5). While in many instances the occurrence of hypotension per se was directly related to the concentration of the anesthetic agent, the patient's age and vascular reactivity were major factors. Profound hypotension occurred five times more frequently in patients over 60 years (24 per cent) than in patients below 60 years (5 per cent).

In a majority of cases a reduction in the concentration caused a return of systolic pressure to acceptable levels. In upper abdominal operations, severe hypotension was usually due to traction reflexes and was reversed when manipulation lessened. Atropine was given intravenously in 12 instances, but was only effective when the hypotension was associated with bradycardia from traction reflexes. Methoxamine, 5 mg. was given intravenously in three cases and was effective in reversing the hypotension when all other measures had failed. In no case did a systolic pressure stay below 70 mm. of mercury for more than 10 minutes. Patients who did have pronounced hypotension throughout a major portion of the period of anesthesia did not show evidence of "shock," and their skin remained pink, warm and dry. There were no evidences of permanent effects due to hypotensive episodes.

In all patients the systolic blood pressure was near preanesthetic levels at the termination of anesthesia. Postoperative hypotension was rare, and oliguria related to hypotension did not occur.

Bradycardia of a degree was present in most patients in surgical levels of anesthesia, unless they had received Flaxedil. Severe bradycardia (less than 48 per minute) occurred in 12 patients. In six cases it was associated with the rapid injection of succinylcholine for tracheal intubation, and in two of

the six the pulse rate was 12 per minute for about 2 minutes. In all these patients the rate returned to normal levels after intubation without specific therapy. In the remaining six cases the bradycardia was associated with visceral traction reflexes; in four instances it reverted spontaneously and in two it responded to intravenous atropine.

Electrocardiographic effects. In 399 patients the electrocardiogram was continuously monitored with a cardioscope. Downward displacement of the pacemaker intermittently was so common as to be considered routine, but no other supraventricular arrhythmia developed during anesthesia. Preexisting auricular fibrillation was not affected by Fluothane.

Ventricular arrhythmia occurred in 42 patients. In five cases the abnormality was multifocal ventricular extrasystoles, and in the remaining 37 there were either coupled ventricular extrasystoles or single extrasystoles occurring at intervals, apparently from a single focus.

In 21 cases the occurrence of ventricular extrasystoles was related to tracheal intubation, an incidence of 7 per cent of those intubated. Usually this aberration was of short duration, and regular rhythm reappeared as soon as ventilation improved and the anesthetic level deepened.

The remaining cases of ventricular arrhythmia were associated with traction reflex phenomena or underventilation or both. The effect of underventilation was dramatic, and ventricular extrasystoles in some patients could be started or stopped by altering the degree of ventilatory assistance. In only two instances was arrhythmia associated with hypotension and in both these cases it was also associated with traction reflexes. In general, arrhythmia seemed to be a benign phenomenon. In no case was drug therapy used to stop it.

The use of epinephrine solutions. Epinephrine in a 1:100,000 concentration was injected for local hemostasis in 61 patients. Volumes injected were between 5 and 10 cc. and injections were not repeated within one hour. There was no evidence in any case of a disturbance of cardiac rhythm or of any cardiovascular effect related to epinephrine.

Morbidity and mortality. There were no operating room deaths and no case of "cardiac arrest." One death within the first 24 hours after operation was due to massive cerebral anoxia during carotid endarterectomy. There were two other deaths within the first postoperative week but they were not related to the use of Fluothane or the closed system technique.

Toxic effects on the liver or kidney were not evident although the series included patients with significant liver and kidney disease.

During the initial period of administration of Fluothane the uptake from the inspired gases is rapid. Within 20 minutes the rate of uptake falls rapidly to a low plateau at which it is continued for many hours.^{4,11} This initial rapid fall in uptake is due to the amounts needed for the saturation of the blood and of tissues high in water content. The use of rapid flow techniques of administering Fluothane during this phase serves the double purpose of providing the large volume of Fluothane required to achieve saturation without using very high concentrations, and of denitrogenating the patient before changing to the closed system.

After the initial saturation, the rate of uptake continues a steady slow rate as the Fluothane is lost from the blood into the tissues, mainly the fat.^{4,11,15} Because of the high degree of transferability of Fluothane from water to oils, this outflow to the tissues will go on for at least a hundred hours, with the agent at the same concentration in the inspired air, before the saturation point of fat tissue is approached. For practical purposes of clinical anesthesia, the uptake of Fluothane during anesthesia maintenance will be steady, and addition of an equal amount of Fluothane from the vaporizer to a closed system should maintain an even level of concentration in the inspired air. Because of the small and fixed rate of outflow to the tissues, small changes in the inflow of Fluothane from the vaporizer will cause relatively large changes in concentration within a short period of time.¹³

In the average adult, the total uptake of Fluothane vapor during steady anesthesia is 15 cc. per minute at an inspired concentration of 1.5 per cent.^{1,13,15} This is the amount of Fluothane vapor emitted by a "copper kettle" when 30 cc. of oxygen is flowed through it at 20°C.⁶ Abajian,¹ Robson and coworkers¹⁵ and Mushin,¹³ using infrared absorption techniques of measuring Fluothane concentration, showed that with this amount of Fluothane added continuously to a closed system, the concentration of Fluothane in the inspired gas will remain constant. They found no evidence of a sudden build-up of concentration, even after several hours of administration. The author found no clinical evidence of such build-up in the present series.

Reports of sudden profound and often unexpected hypotension occurring frequently during closed system administration of Fluothane^{5,7} have been the result of the use of standard vaporizers, vaporizers in the breathing circuit or vaporizers not specifically calibrated for low flow techniques. Control of the concentration of Fluothane can only be achieved if there is absolute control of the flow of gas through the vaporizer. This requires that the vaporizer be

outside the breathing circuit.¹⁶ In order to provide for variations from patient to patient, and within the same patient during the closed system administration of Fluothane, the flow of oxygen through a "copper kettle" must be finely adjustable within a range of 5 to 60 cc. per minute.

When the necessary criteria for control are met, as detailed above, then Fluothane anesthesia in a closed system is not associated with any more frequent complications than are other techniques.^{1,2,16} The incidence of hypotension is related more to the agent per se than to the technique of administration. The influence of age and of traction reflexes in the occurrence of hypotension is not limited to Fluothane; these influences are factors with any anesthetic agent. The fact that postanesthetic sequelae due to the hypotension associated with Fluothane anesthesia have not been any greater than with other anesthetic agents suggests that existing criteria for safe levels of systolic blood pressure during Fluothane anesthesia may need to be revised downward.

That there is a relationship between pharyngeal manipulation or tracheal intubation and cardiac arrhythmia has been well established. It is not surprising that the same would hold true, as the present report indicates, of Fluothane anesthesia.¹⁰ The role of underventilation in the production of ventricular arrhythmias, as described by Black,³ was quite evident in some patients in this series. During Fluothane anesthesia, ventricular arrhythmia seldom occurs at times of hypotension, suggesting that a high level of circulating catechol amines is necessary for its occurrence. This would be in conformity with the proven sensitization of the myocardium to catechol amines that occurs with Fluothane and other halogenated hydrocarbons.¹⁴

While the author does not advocate the indiscriminate use of epinephrine during Fluothane anesthesia, personal experience in this series and an additional 140 cases not included here indicates that its use is not absolutely contraindicated. Use of not more than 10 cc. of 1:100,000 epinephrine (or the equivalent of another concentration) will not result in demonstrable undesirable effects.

Finally in an era of rapidly rising costs of medical care it is gratifying to be able to introduce savings. The cost of supplying oxygen and Fluothane in a

closed system is about 50 cents an hour; the cost of nitrous-oxide-oxygen Fluothane mixture at 4 liters per minute is about \$2.50 an hour.

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Histamine Metabolism

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THERE IS GENERAL AGREEMENT that histamine is involved in a number of biological phenomena. For this reason scientific interest in histamine continues after more than fifty years of study. This paper is intended to provide a review of some recent discoveries about the formation, storage and catabolism of histamine.

Histamine is produced by the enzymatic decarboxylation of the amino acid *histidine*. In experimental animals less than 10 per cent of injected histidine and less than 1 per cent of ingested histidine is converted to tissue histamine. This newly formed intracellular histamine is released slowly from the tissues, with a biological half-life of about 50 days.⁹ Since only a small portion of ingested histidine is converted to histamine, the supply of histidine in the diet has little effect on stores of histamine in tissues.⁴

A wide variety of organisms possess the enzyme *histidine decarboxylase* which catalyzes this conversion. Bacterial histidine decarboxylase is responsible for the appearance of histamine in putrefying organic matter such as the rotted ergot from which Barger and Dale isolated histamine as the biologically active material in 1910.¹ The concentration of histamine in animal tissues parallels local concentrations of histidine decarboxylase; and the histidine decarboxylase activity can be correlated with tissue mast cell concentration.⁵ Histamine formation by human cells was recently demonstrated by Hartman, using basophils from humans with myelogenous leukemia.⁷

Large species differences have been found in the histamine content of mammalian tissues. Some animals, like the dog, have most of their histamine in mast cells in the connective tissue capsules of visceral organs. Others, like the rat, have most of their histamine in the mast cells of skin and subcutaneous tissues. The rabbit is unique in that relatively large amounts of histamine are found in the platelets. Thus, generalizations from experimental animal studies must be made with caution.

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The work here reported was supported in part by Grant No. E-1510 of the National Institute of Allergy and Infectious Disease.

Presented before the Section on Allergy at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

• Some recent discoveries about the formation, storage and catabolism of histamine are reviewed. Histamine is formed by decarboxylation of histidine and stored principally in the mast cells of connective tissue. Human lung and facial skin are particularly rich in histamine. When histamine is injected intravenously, stimulating spontaneous release, it is rapidly metabolized and excreted.

The cellular histamine is found within the mast cell granules with a concentration of about 25 μgm per cell in ox liver capsule.⁸ Rat mast cells contain an average of 32 μgm per cell.³ Most human mast cells are in connective tissues, the number varying from 20 to 120 cells per five high power fields. Chronic inflammation increases and acute inflammation decreases the number of mast cells seen.

Graham and coworkers⁶ carefully measured the distribution of histamine among the various formed elements of human blood. By far the greatest concentration (1 μgm per cell) was found in basophils, much lower than that of tissue mast cells. The high blood histamine levels observed in chronic myelocytic leukemia have been correlated with a high basophil content.¹² Data on other human tissues are comparatively sparse. The highest tissue concentrations are found in facial skin (30.4 μgm per gm), lung (33 μgm per gm), stomach (14 μgm per gm) and duodenum (14 μgm per gm).

After its intracellular formation (by histidine decarboxylase) histamine remains inactive within mast cell granules even after cellular disruption and differential ultracentrifugation. Three hypotheses as to the nature of this intracellular binding have been presented. Peptide bonds to protein, ionic bonds to heparin, or binding or adsorption to lecithin may be involved. Heparin and histamine will form a precipitate *in vitro* which resembles the mast cell granules. Conversely, lecithinase activation seems to be instrumental in producing histamine release. At present, the mode of binding remains unknown.

The degradation of endogenous histamine following its release from cellular stores has not been directly studied due to the technical difficulties involved. Instead, most studies have involved the intravenous or subcutaneous injection of trace amounts of histamine. Isotopic labeling of histamine has aided the identification of metabolites.

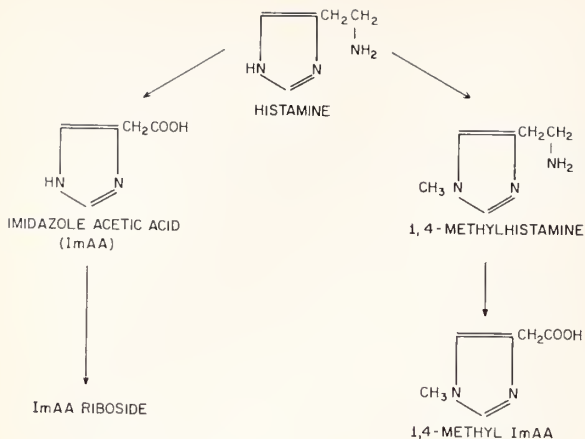


Figure 1. Pathways of histamine catabolism.

Injected radioactive histamine is rapidly cleared from the plasma and the metabolic products are rapidly excreted in the urine.² There is no appreciable ring-splitting or respiratory excretion of radioactive carbon dioxide after injection. When small amounts are injected, very little unchanged histamine appears in the urine. We gave 100 μ gm of radioactive histamine intravenously to humans and found that the plasma was cleared of radioactivity in a few minutes; 70 per cent or more of the administered radioactivity had been excreted into the urine within 24 hours, and all within 48 hours. Less than 5 per cent of this was unchanged histamine.

There are two main pathways of histamine catabolism (Figure 1). First, histamine may be oxidized to imidazole-4(5)-acetic acid (ImAA) through imidazole-4(5)-acetaldehyde. Much of the resulting ImAA is then conjugated with ribose, leading to urinary excretion of both ImAA and ImAA riboside.¹¹ In the second pathway, histamine is methylated at the ring imino-nitrogen to form 1,4-methyl-histamine. This is followed by oxidation of the side chain, presumably through the corresponding aldehyde to 1,4 methylimidazoleacetic acid (me-ImAA).

There is some species variation in the amounts of the various radioactive metabolic products that

are excreted following administration of radioactive histamine. In humans apparently both pathways of catabolism are used. Schayer¹⁰ found most of the radioactive histamine excreted as me-ImAA by healthy young males.¹⁰ Our studies with a group of hospital patients and normal males demonstrated ImAA as the principal metabolite.² There were no consistent variations in the amounts of the metabolites found in patients with asthma, "histamine" headaches or Laennec's cirrhosis.

The catabolism of histamine is thus a process which proceeds rapidly and completely and there is no evidence that it is ever altered significantly *in vivo* in man. Histamine metabolizing enzymes remain surprisingly active even in extensive parenchymatous diseases.

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Operations in Upper Extremity Amputees

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IN AMPUTATION of a limb, the surgical procedure is a relatively minor part of treating the patient. Before ablation the surgeon must help the patient to prepare himself mentally for the impact his loss will entail. After operation he must supervise stump conditioning. With the aid of the prosthetist and the amputee trainer (sometimes job counselor, engineer, psychiatrist or plastic surgeon) he will prescribe the prosthesis best suited to the needs of the patient and insure adequate instruction in how to use it.

Children who have had amputations of an upper extremity should be fitted with a prosthetic device early—within the first two years in most instances. Also, every effort must be made to preserve the growth centers proximal to the site of amputation. Growth in a deformed and less useful arm is invariably slower than that on the normal side. In general, it is advisable to preserve as much as possible and to postpone the operation as long as possible. Another good general rule in this connection is to permit the family (with the help of good medical advice) to decide when the time for removal has arrived.

SURGICAL PRINCIPLES

Prerequisites of a good amputation stump are that it have: (1) A covering of healthy, full-thickness skin without painful scars. A muscle pad about the bone, but not protruding more than $\frac{1}{2}$ inch beyond the end of the bone. (2) Normal sensation. (3) Good muscle control and joint function. (4) No bony prominences or nerve endings that can be traumatized by a prosthetic device. (5) As much length as possible. One cannot always provide all these desirable features, but there must be a sufficient reason for the omission if the surgeon does not do so. The primary operation may be definitive or not, as circumstances dictate. In the presence of infection or potential infection it is usually best to do a modified guillotine amputation, with secondary closure later. In all other circum-

- The surgeon is obligated to prepare the patient mentally as well as physically for amputation. Acceptance of his loss by the patient, his family and contemporaries is important in his adjustment to his environment. He must provide the best stump possible, direct the postoperative shrinking and conditioning of the stump, prescribe the prosthetic device best suited to the needs of the individual, make sure it fits and functions, and that the patient is instructed in its maximum use.

There are definite indications for ablation of a part. All possible length in the upper extremity should be preserved.

Amputation in children with congenital deformities should usually be postponed until demanded by the family. The growth centers should be preserved if feasible. Congenital upper extremity amputees should ordinarily be fitted within the first two years.

Neuromata, spurs, redundant tissue, scars, and phantom pain should generally be treated by other than surgical methods. Revisions, including cineplasty, should be undertaken only after careful study and when there are clear indications that benefit to patient will ensue.

stances a single procedure, with formation of adequate skin flaps and primary closure, is done. The techniques of the various standard operative procedures will not be dwelt upon here.

SITES OF ELECTION

For many years the standard works on amputation and prosthesis of the upper extremities emphasized the necessity for making the stumps within the areas designated as "sites of election" in midarm and midforearm. Amputation through other areas was discouraged, primarily because no functional prosthetic devices were available for limbs amputated at other sites. Since the inception of the government-sponsored prosthetic research program in 1945, many new components and techniques in the fabrication, fitting and alignment of upper extremity prostheses have removed this major objection to amputation through formerly avoided regions.

Time was that transcarpal amputation, wrist disarticulation and amputation through the lower third of the forearm were not done because they necessi-

Presented as part of a Symposium on Rehabilitation of the Upper Extremity before the Section on Orthopedics at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

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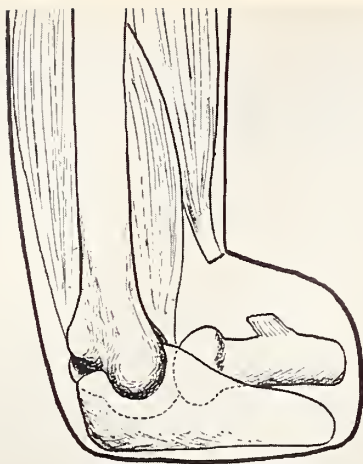


Figure 1.—Section of the insertion of the biceps tendon produces a relative increase in stump length. (By permission of J. of Bone & Joint Surg.)

tated use of a socket that would have made the arm longer than the normal opposite forearm. The wrist adaptors that are now available, however, permit fabrication of forearm sockets that obviate this undesirable asymmetry, yet make possible the preservation of wrist flexion and rotation. Preservation of the lower forearm and carpus whenever possible is also desirable. It is advisable when doing wrist disarticulations to excise the styloid process of ulna and radius. If this is not done the thin skin over these may be irritated by the socket of the prosthetic device.

The upper third of the forearm has previously been regarded as an area which could not be fitted suitably, because it was too short adequately to hold a forearm socket. The newer devices permit adequate functional fitting in this area. Blair and Morris² sectioned the biceps insertion in very short stumps to give a relative increase in stump length and permit higher fitting of the socket in the antecubital area for better stability and function. (Figure 1). Disarticulation through the elbow joint has been frowned upon because of the difficulty of fitting a prosthetic limb over the flaring condyles, and the necessity for a socket longer than that of the normal opposite arm. Newer techniques, the outside locking elbow joint, and the step-up elbow hinge have obviated these objections (Figure 2).

The range of function of an above-elbow prosthetic arm is directly proportional to the length, strength and the range of motion of the retained humeral lever. Preservation of as long a lever as possible is therefore desirable. Until recently, however, any stump with less than two inches of humerus distal to the axillary fold could not be fitted and harnessed functionally. It is now possible to do this. In very high arm amputations, retention of the

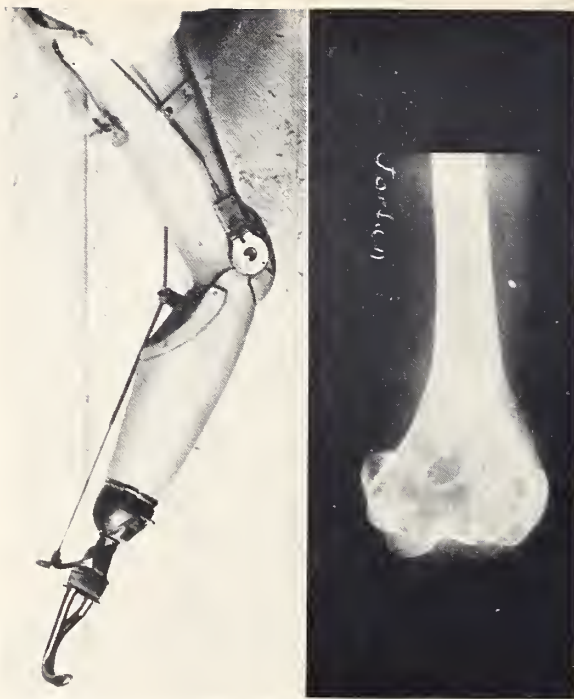


Figure 2.—On the left is the elbow disarticulation prosthesis with outside locking elbow hinge; on the right, the x-ray of the elbow disarticulation. (By permission of J. of Bone & Joint Surg.)

head of the humerus is desirable for cosmetic reasons, and because it permits a firmer grip of prosthesis on shoulder girdle, thereby increasing security and minimizing rotation of prosthesis about the shoulder.

The successful fitting of many persons who had amputations through the so-called undesirable areas with appliances and techniques developed in recent years, has demonstrated that the concept of "sites of election" in upper extremity amputations is obsolete.^{5,7} Amputation operations on an upper extremity should be directed toward saving all possible length in all areas. Prosthetic consideration need not dictate an amputation site. Physical factors, such as skin coverage, adequacy of circulation, good innervation, and function of the part to be saved should be the determining factors in deciding the level of amputations (Chart 1).

Secondary closure is necessary when amputation of the guillotine type is used. It is occasionally necessary to trim off bony prominences or redundant soft tissue in order to form a better stump. Bony prominences such as the anterior crest of tibia are easily irritated by a prosthetic socket. Rarely is redundant soft tissue an indication for revision, for allowance can be made for it when tailoring the socket. Long-standing, persistent drainage and failure of the wound to close, however, are reason for excision of infected tissue secondarily.

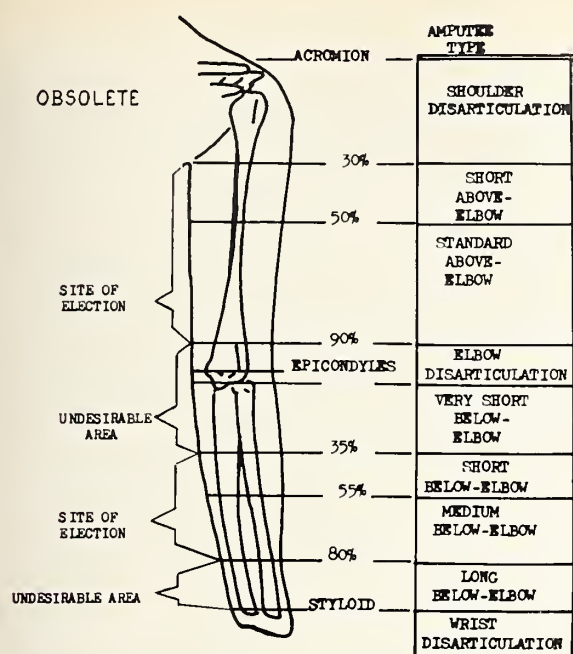


Chart 1.—On the left, the old "sites of election" and "undesirable areas" are shown. On the right, prosthetic designations for amputations at various levels.

CINEPLASTY

Since the second world war, there has been a revival of interest in ways to activate prosthetic devices by contraction of a skin-lined muscle tunnel. A number of studies have been made of the efficacy of cineplasty, and they have shown rather conclusively that this operation is of value in only a few amputees. Brav³ reviewed 78 cases of cineplastic operations on biceps and 29 on pectoral muscles and found 70 per cent of the biceps tunnels and 35 per cent of the pectoral tunnels "successful." In the author's⁸ series, 19 of 27 or 70 per cent of biceps tunnels gave satisfactory use and service to the amputee, as did 6 of 12 or 50 per cent of pectoral tunnels. Of two triceps and 15 forearm tunnels, none functioned. Except in very rare circumstances, therefore, only the biceps cineplasty in below-elbow stumps is worthwhile.

The advantages of biceps cineplasty are: (1) There is greater range of motion of the prosthesis; (2) the axilla loop used in harnessing of a standard prosthesis is not needed; (3) deep proprioceptive sensation is restored, which enables the amputee to "feel" the location of the terminal device; (4) there is improved performance of fine hook or finger motion.

Patients should be carefully selected for cineplasty. They should be mature, well adjusted, persevering and well motivated persons who will cooperate in learning to use the prosthetic device. They should have seen others who have had cine-

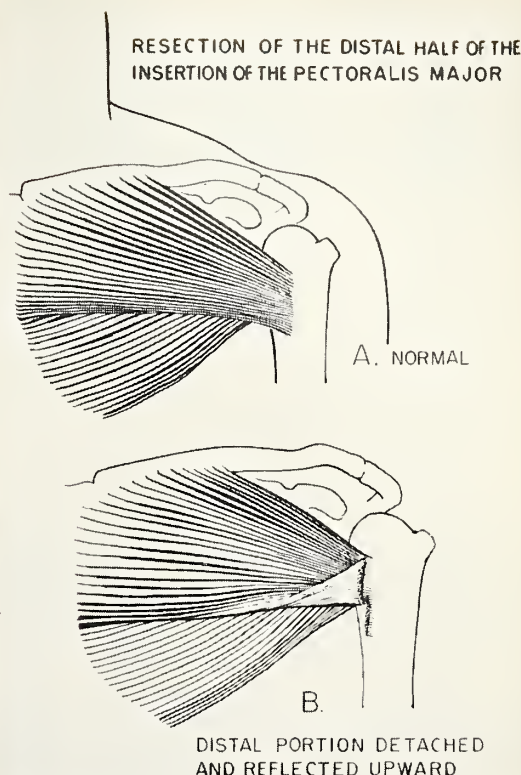


Figure 3.—Reflection of the lower half of the insertion of the pectoralis major produces a relative increase in stump length. (By permission of the J. of Bone & Joint Surg.)

plasty and they should want the operation. They should have done well with a conventional prosthesis for at least six months.

Stump Lengthening

There are two types of stump in which efforts to increase length may be justified:

1. A well-formed but very short below-elbow or above-elbow with good sensation and muscle power, in which fitting, or function or both could be improved by additional length. In these instances, provided the patient understands his problems, wants to be a good prosthetic user, and does not expect too much from the operation, section of the biceps insertion into the radius, or reflection of the insertion of the pectoralis major⁸ into the humerus, will provide some increase of relative length and function. (See Figure 3.)

2. In stumps with good skin and muscle power, where the humerus is considerably shorter than the redundant soft tissue hanging from it. Implantation of a fibular graft into the end of the humerus has been attempted in a few instances.^{12,13} In these cases resorption of much of the transplant has

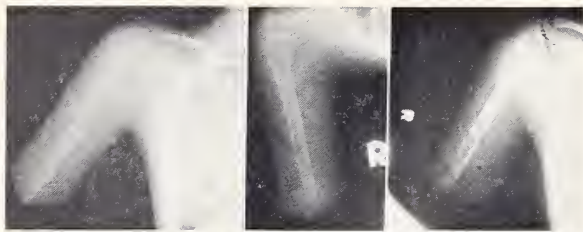


Figure 4.—*Left:* X-ray film taken May 25, 1959, shows the sharp end of the humerus almost penetrating the skin in a 10-year-old congenital amputee. *Center:* The resected bone is shown in the film of August 21, 1959. *Right:* A film taken July 27, 1960, shows re-overgrowth of the humerus.

occurred. The slight increase of length and function is of questionable value.

Skin Grafts

Split skin used to obtain closure of infected stumps does not withstand prosthetic use well. It is desirable to replace it with a full thickness graft, which obviates ulceration of the skin, permits better function of prosthesis and provides more normal sensation.

Scars

Painful, tender or adherent scars may be traumatized by the artificial arm or may inhibit its full use. Resection of these is often rewarding.

Bony Overgrowth and Spurs

In children, the humerus and the tibia may grow faster than the surrounding soft tissue, stretching it and bringing about ulceration through the stump end. This may occur even in congenital cases. Shortening of the overgrown bone is necessary⁴ and may have to be done more than once if overgrowth recurs (Figure 4). Spurs practically never cause enough trouble in upper extremity amputees to necessitate removing them.

Neuromata

Too many operations are done for "removal of neuromata." It is not unusual for a high-strung or hypersensitive amputee to have pain which he relates to the cut end of a nerve trunk. The area may be tender. Usually in such cases, excision of the neuroma is followed by a couple of months' relief from pain. Then the patient's boss takes him to task for something, or his wife wants a new fur coat, and the pain returns, being now referred to another nerve end or to the same nerve higher up. Resection of neuromata rarely results in permanent relief. Local procaine injection, application of heat or cold, sometimes intravenous pentothal or procaine, may help. Psychiatric evaluation is usually indicated.⁶ In children a significant number of painful neuromata, uncomplicated by psychic problems, have been removed with good relief.¹

PHANTOM PAIN

Phantom pain is not a problem in congenital amputees or those who have had traumatic amputation in the first decade of life. Traumatic amputations during the second decade may be followed by phantom sensation, but almost never pain. In adults, phantom sensation is practically universal, pain fortunately rare. The pain studies by the Amputee Research Group at the University of California, Berkeley, have elucidated some instructive facts.¹¹

Phantom pain manifests itself in a variety of ways. The missing part frequently moves into a more proximal location than it normally inhabits. The painful sensations may take the form of burning pain or the feeling of having red hot pins stuck into it. The toes or heel may feel as though squeezed in a vice, struck by a hammer or twisted into a grotesque deformed shape, or there may be agonizing muscle cramps. There may be only a tingling of finger or toe.

Approximately 30 per cent of amputees have no phantom pain. In about 5 per cent it is very severe.

Treatment is as has been outlined under neuromata.

Re-amputation is futile.

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Staffing Ratios in a Rehabilitation Program

JOHN E. AFFELDT, M.D., Downey

ON JANUARY 1, 1961 the State Department of Social Welfare of California put into effect a program to pay for physical rehabilitation services for the Old Age Security recipients in facilities certified by the State Department of Public Health.¹ This program is part of the state's implementation of the Kerr-Mills bill passed by the Congress of the United States September 13, 1960, known as the "Social Security Amendments of 1960."

The payment of cost of rehabilitation should enable many persons needing this service to obtain it and, in turn, enable hospitals to develop such programs to meet the need. It is the intent and hope of the state that these services be made available in both public and private facilities, distributed as widely throughout the state as possible.

The standards for certification of a rehabilitation facility² follow patterns well established by functioning programs and facilities throughout the country. They require the services of professional personnel to include physicians, nurses, physical and occupational therapists, medical social workers and clinical psychologists. The published criteria list the professional requirements of these personnel. However, the standards do not attempt to establish numbers of staff required in a program.

Planning and budgeting for the numbers and types of personnel needed can be handled in any of several ways. Personnel may be added as needs arise or staffing ratios may be used where the types, numbers and severity of disabilities to be treated are adequately predictable.

Administrators, whether of hospital or medical background, have varying opinions of the value of staffing ratios or formulae. Some consider them useful in developing work loads and budgets, and for planning programs. Others, believing they are misleading, unnecessarily rigid or arbitrary, prefer not to use them.

At Rancho Los Amigos Hospital, staffing ratios are used in some services but not in others, depending upon the size and degree of definition of duties within the service. Experience to date with their use encourages us to continue. The ratios used have for the most part been developed within our own experience.

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• Staffing ratios for professional personnel functioning in an intensive physical rehabilitation program at Rancho Los Amigos Hospital, representing experience with treatment of patients with severe physical disabilities on the one hand and budget pressures and procedures on the other, are as follows:

Physician to patients	1:33
Nursing service per patient per day (including registered nurse, licensed vocational nurse, attendant)	4 hours
Physical therapy to patients	1:7
Occupational therapy to patients	1:14
Medical social service to patients	1:35
Psychology or vocational counselor to patients (needing service)	1:35

rience. These represent the multitudinous influences of budgeting and programming at work in our particular environment. They cannot and should not be considered rigid patterns for use in other rehabilitation programs. They can, however, be used for comparison with other programs or as possible guides to new programs being established.

It is the purpose of this paper to present the staffing ratios used at the Rancho Los Amigos Hospital in the physical rehabilitation program, as a resource for hospitals who may be seeking such information for their own planning purposes.

Medical Staffing

A ratio of physicians to patients is difficult to establish, will vary widely between hospitals and can be very misleading. Consequently we do not use it for establishing positions for staff physicians; rather, we define a medical need and then establish the position. We can, however, arrive at an experience figure by relating the number of full-time physicians serving a given number of patients on the rehabilitation program. With this approach, our ratio turns out to be approximately one physician to 33 patients. This is misleading, however, because one physician does not confine his activities to a geographically confined group of 33 patients. The physician staff is composed of generalists and specialists, each performing specified service for a given patient. The generalist provides the day-to-day general medical care, the internist the special med-

ical guidance and the orthopedist or physiatrist the reconstructive or physical restorative aspects. All share these responsibilities for a specific patient.

This approach differs from that of most general hospitals, where one physician has a specified group of patients. He either calls a consultant in or transfers the patient to another service to achieve needed specialist services. However, the ratio of 1:33 is reasonably close to that of general hospital experience, where the ratios are between 1:20 and 1:30. The ratio cited in our program does not include numerous consultants who visit for guidance, teaching or special consultative purposes.

Nursing

Our nursing ratios are based on the number of hours of nursing service rendered a patient in a 24-hour period. We use different ratios in different areas of the program, the areas being defined by severity or type of disability. The ratio includes three classes of nursing personnel—registered nurse, licensed vocational nurse and attendant. The ratio excludes supervisory personnel, from the head nurse upward. It also excludes whatever clerical and educational personnel are used within the service. Through means of the ratio, the numbers and classifications of patients thus determine the number of nursing service personnel. This nursing personnel number is then distributed between professional and nonprofessional persons on a 25:75 ratio, 25 per cent professional (includes only the registered nurse) and 75 per cent nonprofessional.

The basic nursing formula used within our rehabilitation program is four hours of nursing service per 24 hours per patient. This formula is applied to a group of adult patients in a defined area of the hospital where patients are transferred for the specific purpose of engaging in an intensive program of rehabilitation. The patient group includes those with such diseases or conditions as spinal cord injury resulting in either paraplegia or quadriplegia, severe rheumatoid arthritis, amputation, hemiplegia, advanced multiple sclerosis and a variety of other neuromuscular disabilities. The average length of stay in this program for a patient is six months.

Several specifically defined rehabilitation patient groups receive nursing care beyond the basic four hours per 24 hours. They are as follows:

	Hours
A. Respirator patients (patients using a mechanical respirator for support of respiration).....	10.3
B. Paralytic poliomyelitis patients (nonrespirator).....	6.5
C. Children with severe forms of various paralytic, neuromuscular or congenital disabilities.....	5.0

The nursing support in the long-term care program of the hospital apart from the intensive rehabilitation program varies between 0.9 and 1.75 hours per 24 hours per patient.

Physical Therapy

The physical therapy staff operates with a ratio of approximately one physical therapist to seven patients. This ratio, as in nursing, excludes the top supervisory, instructor and clerical personnel. The number of staff allowed by the formula is further divided into professional and nonprofessional personnel in approximately 50:50 ratio. The professionals are registered physical therapists and the nonprofessionals are attendants. Physical therapists began using attendants at our hospital some seven or eight years ago, relatively few at first, then gradually increasing to the present 50:50 proportion.

Need for the use of nonprofessional personnel grew from the chronic shortage of registered physical therapists; and now that the therapists have learned how to train and supervise nonprofessional help, have become accustomed to it and have overcome whatever misgivings they may have had about the threat to their own job security; they would no longer care to be without attendant workers on their staff. This experience parallels that of the nursing service with regard to the use of nurses' aides.

Occupational Therapy

The occupational therapy staff uses a ratio of one staff person to 14 patients. As in physical therapy and nursing the ratio includes professional and nonprofessional (attendant) personnel. This distribution is approximately three registered therapists to one attendant. The use of attendants is more recent in occupational therapy than in physical therapy, but the acceptance and use of their help followed the same pattern of development noted with regard to the other staffs already mentioned.

Medical Social Service

For medical social service the staffing formula is one professional worker to 35 patients. This ratio excludes the head of the department. It also excludes admissions workers whose particular assignments are the determination of financial eligibility for admission to a county facility. This department has just begun to use the services of two nonprofessional persons assisting the social worker with some of the more routine duties. Thus far the experience is good.

Psychological and Vocational Services

Psychologists and vocational counselors are both needed in a rehabilitation program. We have integrated these two functions and personnel into one department because of the close relationship between psychological evaluation or testing and vocational guidance or counseling. We have further attempted to combine these two functions into the same person in order to achieve flexibility of staff and to minimize further staff specialization. Approximately 60 per cent of the patients on a rehabilitation program

will require the intensive services of the psychologist-vocational counselor. The average time spent with a patient during a period of six months in hospital is approximately 40 hours. A formula of one psychologist or vocational counselor to 35 patients needing service (60 per cent of the patients in the intensive program need it) will adequately supply the service. This group of professional personnel supply psychological testing, psychotherapy and vocational counseling.

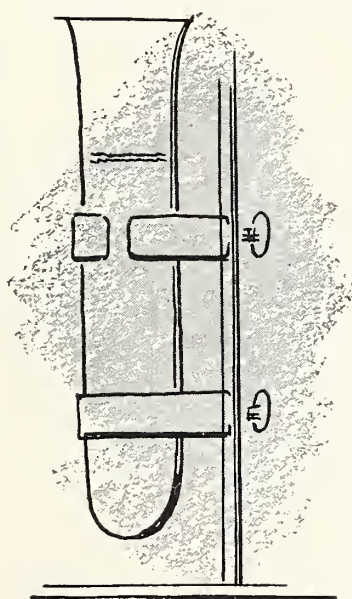
A prevocational testing clinic has been developed within this service. Experience over the past four years indicates that approximately 50 per cent of the rehabilitation patients will have need of this facility, each requiring 25 to 30 hours of service.

There are various other services or activities used in a rehabilitation program, but they are either of a nature not suitable to the working out of a staffing formula or we have not yet attempted to apply one.

Rancho Los Amigos, 7601 East Imperial Highway, Downey.

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CASE REPORTS

Pulmonary Granulomatosis Associated with Excessive Use of Cosmetic Sprays

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ANDREW J. McQUEENEY, M.D., Santa Barbara, and
SAMUEL C. SILIPO, M.D., Miami, Florida

LITTLE REFERENCE has been made in the medical literature to the possibility that pulmonary granulomatosis may be associated with the use of cosmetic or astringent sprays on the hair or body. In March of 1958, Bergmann and coworkers,¹ reporting on observations in two patients, suggested that hair sprays are not altogether harmless. Both of the patients were women in their twenties. One of them had been using various hair sprays for about two years, the last six months of which she had been in the habit of spraying her hair twice daily. The second patient had been using hair spray daily for three years. In both cases x-ray films showed extensive and widespread infiltrative changes, and there were surprisingly few associated respiratory signs or symptoms in either patient. In both instances the roentgenographically visible lesions disappeared spontaneously about three months after discontinuation of the use of hair spray.

In one patient, the microscopic finding of para-aminosalicylic acid-positive cytoplasmic inclusions in the histiocytic granulomatous infiltrate of a biopsy specimen of a scalene node convinced Bergmann and his associates that the lesion was distinctly different from those of sarcoidosis. This discovery stimulated them to study the effects following subcutaneous injections of a residue suspension from a well known brand of hair spray into the inguinal regions of three guinea pigs. Microscopic study of the lesions produced in all three animals revealed the characteristic para-aminosalicylic acid-positive granules in foam cells scattered throughout the granulomatous process. From this finding and other microscopic changes they concluded that the injected hair-spray residue acted like a typical macromolecular substance.

Bergmann² said that since the publication of their article in 1958, they have seen similar conditions in a number of cases, which are to be reported.

From the Departments of Pulmonary Diseases and Pathology, Santa Barbara General Hospital, Santa Barbara.
Submitted March 27, 1961.

In the following case the history, the physical findings, the radiographic changes and the results of tissue examination were strikingly like those in the two cases reported by Bergmann and coworkers.

REPORT OF A CASE

The patient, a 29-year-old woman, was admitted to the Santa Barbara General Hospital on June 1, 1959, because of extensive bilateral lung lesions, somewhat suggestive of tuberculosis, observed on a routine radiograph of the chest (Figure 1) taken May 29, 1959, as part of a gynecologic examination. A routine 70 mm. minifilm (Figure 2) taken May 1, 1957, showed no such changes. A 14x17 film taken on June 11, 1959, and a right lateral film (Figure 3) showed the same extensive bilateral symmetrical pulmonary infiltration of multicentric configuration.

The patient was employed as a nurses' aide at another hospital. On admission she had no significant symptoms referable to the respiratory tract and considered herself to be in good health. She said she frequently danced for an entire evening without feeling short of breath, and her weight had remained constant at 110 to 113 pounds since 1956.

In January of 1959 she had a mild upper respiratory tract infection of two weeks' duration, characterized by hoarseness, slight productive cough and fever not exceeding 99.3° F.

On specific questioning (after a pathologic report on biopsy material indicated this line of questioning) she said that she had been using various body, room and hair sprays since 1954. Between 1957 and 1959 she used five different cosmetic sprays extensively and concurrently. She was in the habit of spraying her body daily after bathing, and on returning from work, she invariably sprayed her room heavily with cologne.

No significant abnormalities were observed on physical examination. Response to a skin test with tuberculin intermediate strength purified protein derivative was negative; with a second strength PPD it was 2-plus at the end of 48 hours. Results of tests with histoplasmin and coccidioidin in various dilutions were negative. Results of urinalysis, blood cell counts and hematocrit and hemoglobin determinations were all within normal limits, as were serum calcium, total and fractional serum protein, alkaline phosphorus and nonprotein nitrogen and the results of a bromsulphthalein test. The erythrocyte

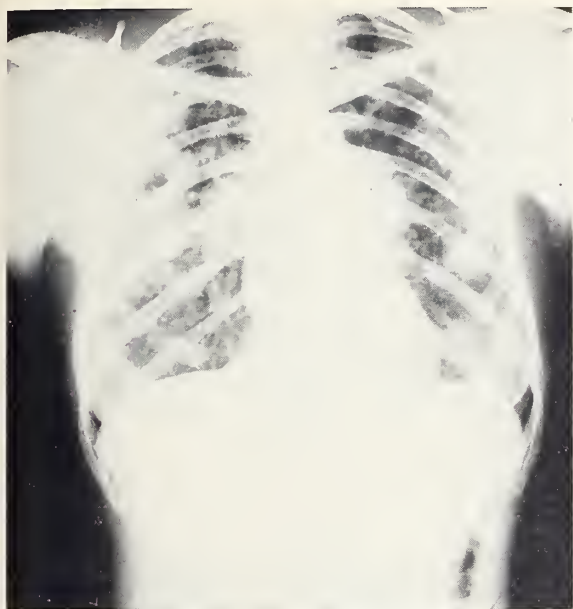


Figure 1.—Routine chest roentgenogram obtained on May 29, 1959, two days before admission to the hospital, showing extensive and diffuse bilateral granulomatous infiltrate. The patient was asymptomatic.

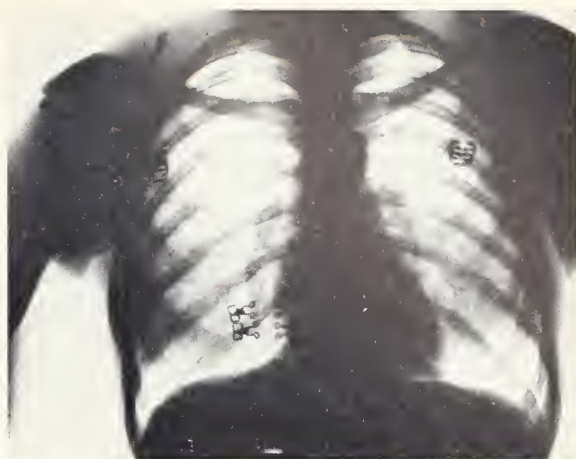


Figure 2.—Photograph of a 70 mm. minifilm obtained on May 1, 1957. This radiogram was interpreted as being within normal limits.

sedimentation rate (Wintrobe) was 32 mm. in one hour and remained rapid throughout the hospital stay. The result of a cephalin flocculation test was 2-plus at 24 hours and 4-plus at 48 hours; and results were the same later during the time the patient remained in the hospital. Fourteen consecutive 24-hour sputum specimens were negative for acid-fast bacilli on slides and culture, as were three specimens of gastric washings. Three fresh sputum specimens submitted for culture for predominating organisms were negative for pathogenic forms. However, the patient had very little sputum for examination.

The patient received no antibiotics or antituberculous drug therapy at the beginning of the period in hospital. Because of the response to the tuberculin test and the radiographic observations, it was decided to keep her under observation in the hospital. On June 17, 1959, her temperature was 103° F. for a 24-hour period and she complained of a severe sore throat. The vessels of the pharynx were decidedly engorged. The patient was given 400,000 units of penicillin-V by mouth five times daily and 250 mg. of oxytetracycline four times daily for five days. At the end of this period the pharyngeal symptoms had subsided and the temperature had returned to normal. X-ray films of the chest taken July 23, July 31 and August 20 showed no change. Films of the hands and feet, taken June 15, showed no abnormality.

Results of ventilatory function studies carried out in June and July, 1959, were within normal limits.

Biopsy of a specimen of scalene lymph node on June 18 showed noncaseating granulomatous lymphadenitis (Figure 4). The pathologic report on a



Figure 3.—Right lateral chest roentgenogram obtained on June 11, 1959. This film shows the distribution of the infiltrates and the apparently normal upper mediastinum.

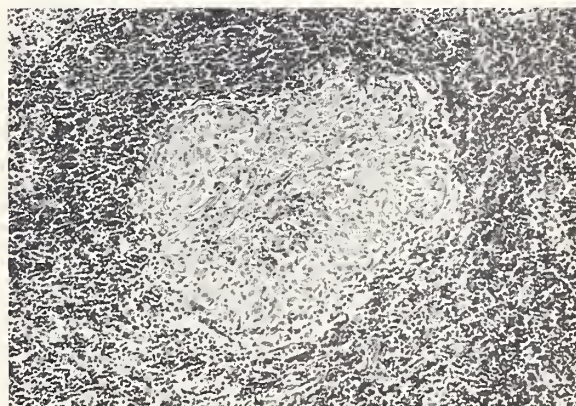


Figure 4.—Scalene lymph node (hematoxylin and eosin stain, reduced from $\times 450$). Noncaseating granulomatous focus associated with bilateral pulmonary granulomatosis.



Figure 5.—Specimen of lung tissue (hematoxylin-eosin stain, reduced from $\times 450$), showing pulmonary granulomatosis. Peribronchial infiltrate (arrow, left) and confluent granulomatous foci with marginal fibrosis (arrow, right).

specimen of lung tissue taken for biopsy August 17 follows:

“Microscopic. The pleural surface of the lung was covered with a thin film of fibrinous exudate. The pulmonary parenchyma was replaced by a diffuse granulomatous inflammatory process characterized by the presence of multiple granulomata that were confluent in many areas, obliterating the normal alveolar pattern (Figure 5). Individual granulomata showed epithelioid cell infiltration and occasional multinucleate giant cells of Langhans type, with no evidence of caseation necrosis. There was slight interstitial pulmonary fibrosis. Terminal bronchioles and occasional groups of alveoli were dilated and filled with pooled eosinophilic pink material containing numerous histiocytes. Further examination showed cytoplasmic pink granules within many histiocytes. Periodic acid stains showed these to represent clusters of foam cells with PAS-positive cytoplasmic granules (Figure 6). Small numbers of similar phagocytes containing PAS-positive material were distributed throughout the granulomatous foci. No fungi were demonstrated. Acid-fast stains showed no acid-fast bacilli. Grocott stains for fungi are negative.

“Diagnosis. Pulmonary granulomatosis, consistent with ‘hair-spray granuloma.’

“Comment. The microscopic appearance is identical with that produced experimentally by Bergmann and coworkers by subcutaneous injection of a well-known brand of hair-spray. Pulmonary infiltration is so extensive in the biopsy material that liver involvement is probable.”

It was after this report was received that questioning of the patient brought to light the excessive exposure to spray-type cosmetics, and she was thereupon discharged from the hospital with advice to discontinue exposure to sprays. She returned to work as a nurses’ aide and reported regularly to our out-patient chest clinic for follow-up examinations.

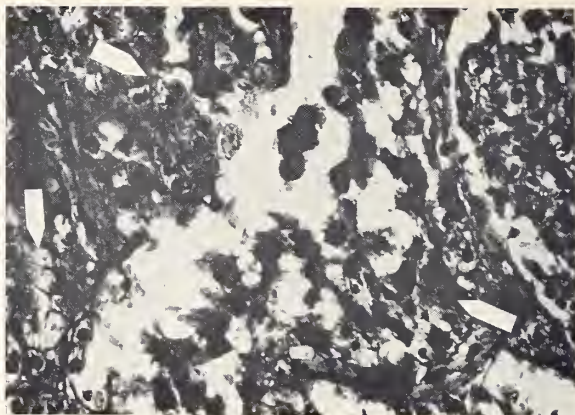


Figure 6.—Specimen of lung tissue (periodic acid-Schiff stain, $\times 970$). PAS-positive cytoplasmic inclusions in granulomatous pulmonary infiltrate, obscuring nuclear detail at lower right.

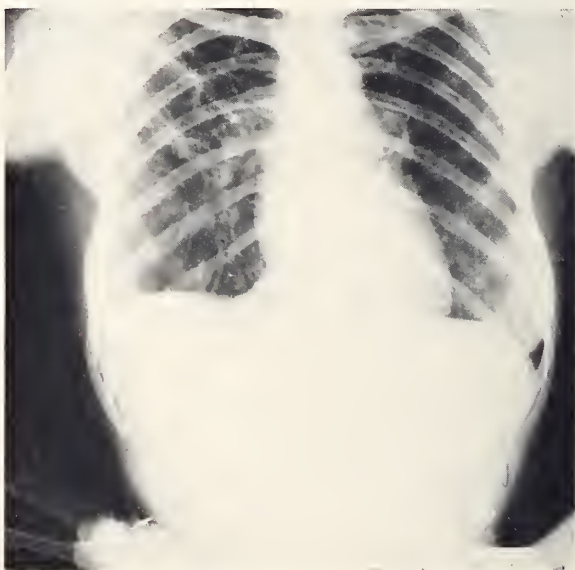


Figure 7.—Chest roentgenogram taken November 9, 1960, six months following the film shown in Figure 4. Note the dramatic clearing of the granulomatous infiltrates which took place between 12 and 18 months after the patient discontinued the use of body spray.

She was given no treatment and remained asymptomatic. X-ray films of the chest were taken from time to time and it was not until November, 1960, more than a year after the patient was discharged from the hospital, that significant diminution in the extensive pulmonary granulomatous process was shown (Figure 7).

The erythrocyte sedimentation rate still was above the normal range. However, the result of a cephalin flocculation test on February 1, 1961, was normal.

The patient remained well and continued to work. Ventilatory pulmonary function studies carried out February 1, 1961, were still essentially normal. The patient said she had not used cosmetic sprays for 21 months.

DISCUSSION

There is an element of uncertainty in suggesting that the pulmonary granulomatosis (thesaurosis) in this case was produced by the excessive use of body sprays. It is regrettable that qualitative tests for polyvinylpyrrolidone were not performed on the lung tissue removed for biopsy. Bergmann² said he considers this test necessary for an absolutely certain diagnosis, as he and his coworkers have apparently incriminated this ingredient by chemical analysis of various sprays as responsible for the changes evoked by prolonged inhalation.

The pathologic changes suggesting the diagnosis are shown in Figures 5 and 6. The lesion is practically indistinguishable microscopically from sarcoidosis except for the presence of the PAS-positive granules in the histiocytes. These granules were seen in all the cases Bergmann² observed. It is significant that we were unable to demonstrate similar PAS-positive granules in specimens from known cases of sarcoidosis selected from our pathologic files. In view of these observations, and in the absence of other possible etiologic agents, the history of excessive exposure to spray type cosmetics certainly seems more than coincidental.

It is noteworthy that in the present case more than a year elapsed before the pulmonary lesions cleared, whereas it took an average of only three months after discontinuance of sprays in the two cases originally reported by Bergmann.¹ Our impression following correspondence with Bergmann, however, is that the lung reaction in the present case was pathologically and radiographically more extensive and intensive than in most of the cases he observed.

The virtual complete resolution of the lesions on the radiograms is by no means specific for thesaurosis. However, this degree of resolution without steroid therapy would be regarded as most unusual in extensive pulmonary sarcoidosis, which in our opinion is now the only significant entity to be considered in the differential diagnosis.

Obviously more data must be accumulated regarding this probable entity before final conclusions can be drawn.

SUMMARY

In a case of diffuse bilateral pulmonary granulomatosis, the lesions disappeared without therapy approximately 14 months after the patient stopped using cosmetic body spray that she had previously used often. Scalene node biopsy and lung biopsy revealed a granulomatous reaction identical with that previously described following the use of hair spray. This factor should be considered in patients with asymptomatic pulmonary disease.

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Hemolytic Disease of the Newborn Due to Sensitization to the Blood Factor hr'

HERMAN W. HYATT, SR., M.D., Bakersfield

SINCE THE DISCOVERY of the hr' factor by Levine in 1941,⁵ approximately 30 articles concerning hemolytic disease of the newborn due to sensitization to this factor have appeared in the literature.

In view of the relative infrequency of hemolytic disease of the newborn related to maternal sensitization to the hr' factor it seems important to report the following case.

REPORT OF A CASE

The patient, obese, 37 years of age, gravida IX, para V, abortus III, was admitted to Kern County (California) General Hospital on June 1, 1960. The expected date of confinement was June 17, 1960. None of her five living children, whose birth weights had ranged from 7 pounds to 9 pounds 8 ounces, had jaundice in the newborn period and all were well. In none of the three cases in which abortion occurred did gestation continue more than a few weeks and the cause of abortion was not known.

The patient had received three blood transfusions—January 25, 1950, after an abortion; September 27, 1957, and September 28, 1957, for postpartum hemorrhage. Since there was a family history of diabetes mellitus a glucose tolerance test was done May 27, 1960. The results were indicative of latent diabetes mellitus. A 1200-calorie diet was prescribed and the patient was observed regularly in the Diabetic Clinic. Blood sugar content remained within normal limits during that time.

On June 3 the patient was delivered of a 9-pound 3-ounce edematous girl with grayish-blue discoloration of the body that was attributed to a somewhat difficult delivery. Cyanosis of the face was also noted. Studies of the infant's blood done the next morning showed a positive reaction to a Coombs test; serum bilirubin of 23.7 mg. per 100 cc.; hemoglobin, 15.3 gm. per 100 cc.; hematocrit, 53 per cent; 3 nucleated red blood cells per 100 white blood cells. The blood was typed as Group O, Rh₀-positive, hr'-positive. The mother's blood was Group B, Rh₀-positive, hr'-negative. It was believed that the infant had hemolytic disease of the newborn due to maternal sensitization to the hr' factor. An exchange transfusion was done, using 500 cc. of Group O, Rh₀-positive, hr'-negative blood and the infant tolerated the procedure well. The bilirubin was 24.6 mg. per 100 cc. before the exchange and 13.6 mg. after it. On the morning of June 5, 1960 the bilirubin was 22.4 mg. per 100 cc. A second exchange transfusion was done, using 500 cc. of Group O, Rh₀-positive, hr'-negative blood, without incidence. The bilirubin content was 25.6 mg. per 100 cc. before and 14.6 mg. after the exchange. On the morning of June 6, 1960, the bilirubin was 21.4 mg. per 100 cc., the

Submitted May 9, 1961.

hemoglobin concentration was 12.8 gm. per 100 cc. and the hematocrit 41 per cent. At 2:30 p.m. the bilirubin was 21.5 mg. and at 8:30 p.m. it was 20 mg. per 100 cc. At 8:00 a.m. June 7, 1960, bilirubin content was 13.7 mg. per 100 cc. The patient was less edematous and the intensity of the jaundice had decreased. Her condition rapidly improved over the next few days. On June 13, 1960, the hemoglobin concentration was 10.6 gm. per 100 cc. and the hematocrit 37 per cent. The baby was discharged June 14, 1960, with prescription of Similac® with iron.

When last observed, in April, 1961, the patient had normal physical and mental development.

It was not possible to determine the anti-hr' titer of the mother in the latter months of pregnancy in order to detect any rise in titer. However, since it was felt that hemolytic disease in this infant was due to hr' sensitization, serological studies were done. Blood was drawn from the mother, father and four younger children. (The two older sons, ages 16 and 17, were not available.) The mother's anti-hr' titer of 1:32 gave serological confirmation of the original impression. It is likely that the titer would have been higher if the blood had been drawn in June 1960. Results of the blood studies* are shown in the table below.

Subject	Age	ABO Type	Rh Factors				Most Probable Rh Genotype	
			D	C	E	c	Fisher-Race Terminology	Wiener Terminology
Father	40 years	A	+	+	—	+	CDe/cde	R ¹ r
Mother	37 years	B	+	+	—	—	CDe/CDe	R ¹ R ¹
Sister	12 years	O	+	+	—	+	CDe/cde	R ¹ r
Brother	7 years	O	+	+	—	—	CDe/CDe	R ¹ R ¹
Sister	3 years	B	+	+	—	—	CDe/CDe	R ¹ R ¹
Patient	3 mo.	O	+	+	—	+	CDe/cde	R ¹ r

DISCUSSION

The Hr factors are weakly antigenic and consequently only rarely cause antibody formation. However, maternal sensitization to these factors probably occurs more often than is realized. Of the Hr factors, hr' is the most antigenic and consequently most often stimulates antibody formation. In fact in the Rh-Hr system, hr' is the most common cause, after Rh₀, of sensitization in pregnancy.¹¹

Although it is commonly believed that hemolytic disease due to sensitization to the hr' factor is mild, it is important to note that many cases of such sensitization reported in the literature were so severe that death resulted.^{1-4,6-10,12}

*Done by the Brentwood Laboratories, Los Angeles, California.

The blood transfusions the mother had received earlier may have played some role in sensitizing her to the hr' factor, although this cannot be substantiated, since Hr typing was not done on the blood she received.

SUMMARY

A case of hemolytic disease of the newborn due to maternal sensitization to the hr' factor is presented.

Although hemolytic disease of the newborn due to hr' sensitization is uncommon, such sensitization probably occurs more frequently than is supposed.

Of the Rh-Hr blood factors, hr' is, after Rh₀, the most common cause of sensitization in pregnancy.

Although some cases of hemolytic disease of the newborn due to the hr' factor may be mild, other cases may be so severe as to cause death.

Blood transfusions, as well as previous pregnancies, may play a role in sensitizing the mother to the hr' factor.

618 California Avenue, Bakersfield.

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EDITORIAL

The Newer Research

SCIENCE IS ON THE MARCH. All we need do to appreciate this fact is to read our daily papers, where stress is constantly laid on the need for more scientific education, the need for more people trained in the sciences, the need to surpass other countries in our scientific progress.

It has been said, probably with reason, that there has been more scientific progress in the past decade than in all recorded history before that period.

With this upsurge we have even learned a new language. We speak of thermonuclear couplings as though such words were commonplace, where a bit of reflection will show that until recently such words were used in the generic sense and not in connection with modern weapons of industry or of war.

Medicine has shared in this swing. Medical science has advanced along with the other sciences, to the point where the older physician today must take to the textbooks or admit to his own failure to keep abreast of modern practices. We are all aware of the advances in drug production, the synthesis of this or that or the other element, the development of new and potent drugs for therapeutic use undreamed of only a few years ago.

Unlike many of the other professions, however, medicine remains largely a person-to-person profession. It is not dominated by government programming and spending, such as we see in physics and other sciences. Medicine remains a science for the care and treatment of individuals, performing a service which is more effective today because of scientific advances but still based on the concept of one physician to care for one patient. The modalities of such care may advance but the concept of the manner of care remains pretty constant.

In short, the practice of medicine has not been reduced to assembly line methods. This statement might not hold true in all instances, such as some

closed-panel approaches, but it is fundamentally the method by which most physicians treat most patients, person to person.

From the patient's point of view, however, some aspects of the practice of medicine have changed. Chief among these is the manner of payment for services which are admittedly more effective today than at any time in the past but are also more expensive. From this fact has come the tremendous growth of the voluntary health insurance movement as a means of allowing the patient to budget the cost of his medical needs.

This is one of the social aspects of medical practice today. It is also one of the economic aspects. It has nothing to do with the practice of medicine, but an easy connection can be made from scientific advances to the need for social and economic advances.

Once this link is forged between science and the humanities of social science and economic need, it seems obvious that the medical profession must solve the humanistic elements of today's environment. Once solved, these elements must be transmitted to the practitioners whose individual activities are so closely tied in with the subject matter.

It is on this basis that the California Medical Association several years ago established a Bureau of Research and Planning. This bureau was envisaged as a center which might look into the myriad elements contributing to good or bad medical practice, to the well-being and satisfaction of patients, to the quality of medical care and of those who render such care.

The new bureau of the California Medical Association represents the first department of its type in the country. It is making studies directly aimed at the subjects in its agenda. And, even more important, it is making the results of these studies available for general publication and available to the physicians who can profit by such investigations. Its works may be less expansive than we could expect

from a government agency but they will be more readable and more available. The bureau approach is to produce socioeconomic reports that are authoritative and that may be expanded if there is enough interest and reason for doing so.

One distinct advantage of the C.M.A. approach is its inherent flexibility. A subject which may reflect a great interest today may be studied today, not next month or next year. Its personnel are trained to assemble and use known statistics, to develop their own where needed, and to come out with a brief report which is understandable, practical and readable. Any such report which needs expansion may be expanded; if the report indicates an area which is insoluble or sterile, further studies may be discontinued.

The bureau's main job is to get the facts, get them quickly, report them in readable language and, where possible, offer recommendations.

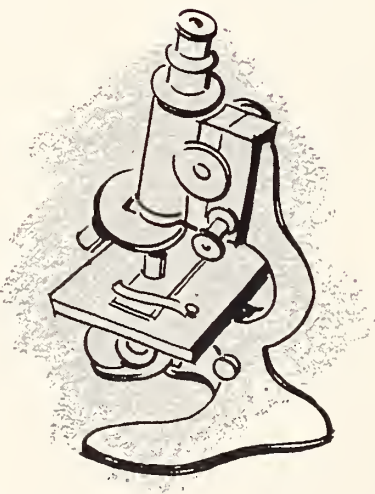
This type of information has not heretofore been available to any large number of physicians or to their organizations. The speed and flexibility with which the bureau can operate have never before been known.

As to subjects, the agenda of the bureau is practically limitless. So many elements enter into good medical practice that a study of each, in depth and with authority, is a never-ending job. Add the advances that occur from day to day, and there seems

no limit to researches which may be carried on in the interest of better medicine.

Members of the California Medical Association have already seen some of the research results produced by this bureau. Others are in preparation and will be seen increasingly in the months to come. Under way are a study of the characteristics of physicians and a survey of miscellaneous plans under which medical care is provided. Two additional reports have been completed and are soon to be published in these pages—one on the cost of hospitalization and the other on the supply of physicians. Now being planned is a conference on the quality of medical care.

The Council of the California Medical Association is to be congratulated on its forward-thinking proposal to establish this bureau. The House of Delegates should be thanked for agreeing to the concept of this new type of research and for budgeting the needed funds for it. Dr. Gerald W. Shaw, chairman, and Murray Klutch, director of the Bureau of Research and Planning, are to be thanked for their effective efforts in bringing the bureau to its present position of importance in the California Medical Association. The members of the association, along with all physicians, stand to gain immensely from this work and its products. In the ultimate, the patients of all physicians will be the recipients of the practical, applicable findings of the Bureau of Research and Planning.



The President's Page



Who Sets the Standards?

"Here is the beginning of progress: A recognition of the problems between men; a search for their cause; a condemnation of mere opinion."

—EPICTETUS

TO WHOM SHOULD America look for guidance in purchasing its health care? Several groups stand eager and prepared to do it. For one, labor is well tooled in this regard, and for obvious reasons. Business, often paying the costs, is acutely anxious. The insurance industry, wanting to sell a commodity, has ready answers—and government, responding to a "need" and with its paternalistic propensities, has moved in.

Each of these is energetic, has generous funds, many bureaus, health information units, "committees on human welfare," and "task forces" to do it. Each recognizes a major coming change in the purchasing habits of Americans when obtaining medical services and desires to become a dominant force in it.

But where is the medical profession? Where is the advice, opinion and leadership of the key group whose entire life is intimately tied to health care? It has been strangely mute, lagging, unsure! This should not be so, for criteria of excellence in many areas of medical activity have traditionally been established and enthusiastically applauded by the profession. Some standards have come easily and without befogging emotions, like drugs in the Pharmacopeia. Others required major soul-searching efforts—as the Flexnor Report and the crisis in medical education. Still others, this time involving standards of personal professional ability (as the colleges, boards and academies) have evolved gradually with the years.

Why is it then that medicine has lagged so far behind in setting standards by which the public can judge its purchase of health care? It might be

that some observers blindly believe that private insurance is the devil's device for getting the government to take over medicine. Maybe a few physicians believe that prepayment against illness is soft, too uniform, and not in the American tradition of rugged individualism. It certainly can't be that a few physicians hope that health insurance will "go away" if it is ignored—because it won't. At least it won't go away from America—it will just go from physicians' control and guidance.

With vision, our House of Delegates, this year, instructed the C.M.A. to develop standards for Evaluating Comprehensive Health Insurance Programs. This is long overdue. True, some physicians will flinch at the word "comprehensive" because it sounds restrictive, and a few will cry that this is another step toward compulsion (they sound alike!). A very small voice may oppose all thoughts of such evaluation, even voluntary, and call it all a wicked disguise for a fee schedule—even though nothing could be further from the truth.

Nonetheless, in their traditional position of health leadership, the vast majority of physicians will applaud criteria established by us to guide our patients in selecting and evaluating excellent health insurance. A guide for ascertaining adequacy of coverage, appropriate exemptions, degrees of co-insurance, value of health maintenance, proper privileges of conversion, factors of age, etc., is essential. Again your medical society is assuming its privileged responsibility of setting the standard for quality in yet another important aspect of medical care.

Walter B. Smith, M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 472nd Meeting of the Council, Los Angeles, Biltmore Hotel, August 19, 1961.

The meeting was called to order by Chairman Sherman in Conference Room No. 2 of the Biltmore Hotel, Los Angeles, on Saturday, August 19, 1961, at 10:00 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Davis, Miller, Sherman, Campbell, Morrison, Kaiser, and Anderson. Absent for cause, Councilors Murray and Teall.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Clancy, Collins, Marvin, Klutch and Tobitt, Mrs. Griffith and Doctors Batchelder and Miller of C.M.A. staff; Mr. Howard Hassard, legal counsel; county executives Scheuber of Alameda-Contra Costa, Geisert of Kern, Field, Dalbec and Baker of Los Angeles, Bannister of Orange, Dochterman of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Thompson of San Joaquin, Rideout of Butte-Glenn and Grove of Monterey; Dr. Malcolm Merrill, State Director of Public Health; Dr. Lester McDonald and Mrs. Eunice Evans of the State Department of Social Welfare; Dr. Daniel Lieberman of the State Department of Mental Hygiene; Gean Haffey of the Joint Commission on Accreditation of Nursing Homes and Allied Facilities; Messrs. Richard Lyon and Webb Burke of California Physicians' Service; Doctors Albert C. Daniels, Allan Voigt, Douglas Donath, John M. Rumsey and others.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 471st meeting of the Council, held July 15, 1961, were approved.

2. Membership:

(a) A report of membership as of August 16, 1961, was presented and ordered filed.

(b) On motion duly made and seconded, 46 delinquent members whose dues had been paid were voted reinstatement.

(c) On motion duly made and seconded in each instance, ten applicants were voted Associate Membership. They were: Robert Cheever Doolittle, Alameda-Contra Costa County; William E. Hayes, San Diego County; Thomas Feichtmeir, Marcia Levin, Lillian Wong, San Francisco County; Roy Cohn, George J. Magid, Thomas S. Nelsen, Harvey Pirofsky, Mary E. Thompson Williams, Santa Clara County.

(d) On motion duly made and seconded in each instance, four members were voted Retired Membership. These were: Harold Smithies, Arthur Teeter, Alameda-Contra Costa County; Elmer Peterson, San Diego County; Margaret Carlsmith, San Francisco County.

(e) On motion duly made and seconded, five members were voted a reduction of dues because of illness or postgraduate study.

3. State Department of Public Health:

Dr. Malcolm Merrill, State Director of Public Health, presented a statement announcing the ap-

WARREN L. BOSTICK, M.D.	President
OMER W. WHEELER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
SAMUEL R. SHERMAN, M.D. . . .	Chairman of the Council
RALPH C. TEALL, M.D.	Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D. . . .	Secretary
DWIGHT L. WILBUR, M.D.	Editor
HOWARD HASSARD	Executive Director
JOHN HUNTON	Executive Secretary

General Office, 693 Sutter Street, San Francisco 2 • PRospect 6-9400
ED CLANCY Director of Public Relations

Southern California Office:

2975 Wilshire Boulevard, Los Angeles 5 • DUmkirk 5-2341

proval for production and distribution of a live virus oral poliomyelitis vaccine. The statement stressed the fact that this vaccine is effective against one poliomyelitis strain only and is not to be used as a substitute for the Salk vaccine now in use.

Dr. Merrill also stated that a new state law which requires poliomyelitis vaccinations for all school children probably could not be put into effect with the new school year because of legal interpretations to be forthcoming from the State Attorney General.

4. *State Department of Social Welfare:*

Mrs. Eunice Evans, deputy director of the State Department of Social Welfare, gave a progress report on the medical care programs administered by the department and introduced Dr. Lester McDonald, newly appointed medical director of the department.

5. *State Department of Mental Hygiene:*

Dr. Daniel Lieberman, deputy director of the State Department of Mental Hygiene, reiterated the philosophy previously announced to the Council by Dr. Daniel O. Blain, director of the department, to the effect that the department cannot and should not attempt to take care of all mental illness in the state but should direct its attention to stimulating the use of other facilities, in the home and in private institutions. Statistics, he said, are proving the efficacy of this program, which eliminates the construction of additional state facilities.

6. *California Physicians' Service:*

Councilor Morrison, Chairman of the Board of Trustees of California Physicians' Service, reported that experience to date under the medical care program for federal employees indicates that a broader coverage will be possible for this group when the initial contract is to be renewed. The service-type program offered by C.P.S. is also gaining members, he reported, under the provisions of the law which allow employees to transfer from one type of plan to another.

This experience also indicates, he said, that an attractive offer can be made to state employees when their health care program, financed in part by the state, goes into effect.

7. *Commission on Medical Services:*

(a) Dr. John M. Rumsey reported that the Medicare authorities have proposed nonpublication of the schedule of fees for Medicare services. Under this proposal, physicians would bill for their usual and customary fees for the services provided; if such billing is within the maximum Medicare allowances, payment would be made; if the billing is beyond the maximum, Medicare would reduce the fee allowed. Every effort will be made to convince Medi-

care authorities that the fee schedule should continue to be published.

(b) Dr. Rumsey also reported that the Veterans' Administration, which for approximately 15 years has used California Physicians' Service as a fiscal agency and administrative intermediary in providing home-town medical care for service-connected disabilities of veterans, has ruled definitely to discontinue this arrangement. When the Council refused to approve direct dealings between the VA and individual physicians, with the C.M.A. serving only to submit names of eligible participating physicians, the VA consented to issue an agreement under which C.P.S. will supply the names of eligible physicians and will review cases where there is a fee dispute. The VA has stated that it cannot meet any expenses of C.P.S. for these services but will discuss such expenses with the C.M.A. at the end of the first fiscal year of operation.

After discussion, it was regularly moved, seconded and voted to accept the recommendation of the Commission on Medical Services that the program above, acceptable to VA, be approved and referred to C.P.S. for activation.

On motion duly made and seconded, it was voted that the C.M.A. reimburse C.P.S. for the nominal costs estimated, subject to discussion of such expenses with the VA at the close of the fiscal year, June 30, 1962.

8. *Public Relations:*

Dr. Douglas Donath reported that the Committee on Public Relations had voted to institute a series of regional public relations meetings, with attendants from neighboring county societies. He requested an appropriation of \$8,000 to cover the cost of such meetings. The program is intended to stimulate effective public relations activities by county societies in homogeneous areas. After discussion, on motion duly made and seconded, it was voted (a) to approve the holding of public relations regional conferences on a pilot basis; (b) to refer to the Finance Committee for report the question of whether additional allocation of funds for such pilot conferences is necessary; and (c) to request the chairman of the Finance Committee, chairman of the Council and chairman of the Public Relations Committee to keep the program under review and to report back recommendations relating to the continuance of regional conferences after experience on a pilot basis.

9. *Committee on Scientific Work:*

Dr. Albert C. Daniels, chairman of the Committee on Scientific Work, presented a series of recommendations of the committee for application in the 1962 Annual Session. On motion duly made and sec-

onded, it was voted to approve the recommendations which would (1) discontinue postgraduate courses at Annual Sessions, (2) provide a series of live color television programs, (3) continue motion picture programs, and (4) plan three general meetings on a coordinated program basis and a fourth general meeting devoted to current developments in the basic sciences; for this meeting the travel expenses of guest speakers from California medical schools would be reimbursed.

A proposal for a general session open to the public was deferred for consideration until a report of the special ad hoc committee on scientific activities is received. This subject will be reviewed by this ad hoc committee and recommendations made to the Council at a later date.

Approval was voted for a meeting of the Committee on Scientific Work during or immediately following the 1962 Annual Session. No other regular committee or commission meetings are to be scheduled during the annual session.

10. *Committee on Committees:*

Dr. Wheeler reported as chairman of the Committee on Committees and recommended that Dr. Eugene Webb of San Francisco be appointed a member of the Bureau of Research and Planning to succeed Dr. Werner Hoyt, resigned, and that Anthony J. Sambuck of Santa Cruz be appointed a member of the Committee on Rural Health succeeding the late Dr. Alson Cary. On motion duly made and seconded, these recommendations were approved.

Relative to Resolution No. 84 of the 1961 House of Delegates, relating to a study of problems in county hospitals, the committee recommended that this matter be referred for study to the Committee on Government Financed Medical Care of the Commission on Medical Services. This was approved. Matters of disciplinary measures, quality of medical care, etc., were recommended to be referred to the Bureau of Research and Planning for quality of care aspects and the Judicial Commission for disciplinary aspects; the chairmen of these two, together with the president of the Board of Medical Examiners and the members of the Committee for Emergency Action, would then make recommendations. On motion duly made and seconded, this recommendation was approved.

11. *Report of President-Elect:*

Dr. Wheeler reported on his recent visits to several areas where migratory farm workers pose a health problem and commended most highly the district councilors and other physicians in these areas for their interest and cooperation.

12. *Finance Committee:*

Councilor Davis, reporting for the Finance Com-

mittee, reported that matters pertaining to Physicians' Benevolence Fund and the Trustees of the California Medical Association had been reviewed by the committee and action taken by the boards of these corporations. He also reported that the committee had approved a budget item of \$7,500 for the Speakers' Bureau, in the knowledge that this represented deficit financing and in the hope that economies in other budget items would provide the needed funds. On motion duly made and seconded, this recommendation was approved.

13. *Speakers' Bureau:*

Councilor Anderson gave a progress report on the Speakers' Bureau and reported that considerable interest had been shown in the plans of the bureau. He also reported that three kits of material for local presentation had been supplied to county medical societies.

14. *C.M.A.-C.P.S. Liaison Committee:*

Dr. Anderson reported that the C.M.A.-C.P.S. Liaison Committee had met to consider several resolutions of the 1961 House of Delegates. Programs for nursing care in the home and for psychiatric care are already under way through C.P.S., he stated.

Dr. Anderson also reported that the subject of local county medical society advisory committees to California Physicians' Service is to be studied by a subcommittee of the C.M.A.-C.P.S. Liaison Committee; this subcommittee to be appointed by Dr. Lum.

Dr. Anderson also reported that the number of participants under the MD-65 program was decreasing and these contracts are not being renewed. Dr. Morrison reported that other plans for the aged, known as "Personal Protection Plans" are being developed in two forms, each of which provides specified coverages on a broader basis, based on C.P.S.'s schedules B, C and D. This permits a choice of six programs by the subscriber, at rates on form No. 1 at \$14.25 to \$16.00 per month per person and on form No. 2 at rates between \$16.45 and \$19.10 per month per person. On motion duly made and seconded, the development of these plans was approved.

15. *Bureau of Research and Planning:*

Dr. Gerald W. Shaw, chairman of the Bureau of Research and Planning, presented an outline of the elements to be included under a comprehensive health care program. On motion duly made and seconded, it was voted to approve the outline as submitted, without reference to income ceilings, and refer it to the Commission on Medical Services for further consideration.

16. *Committee on Other Professions:*

Mr. Hassard reported on progress made by the committee and the representatives of the California Osteopathic Association on the integration program. The Council approved report of Committee on Other Professions and, in so doing, it approved the following statement:

In response to many inquiries, and consistent with the current status of the unification agreement between C.M.A. and C.O.A., the California Medical Association Council, on August 19, 1961, approved the following permissive recommendations relative to the relationship of individual members of the medical and osteopathic professions during the current period of implementation of the unification agreement:

1. (a) It is appropriate for individual M.D.s and D.O.s to get to know each other better and to assist in the implementation of the unification agreement. Such assistance should be on a voluntary basis at the local level.

(b) The concept is supported that component societies, where appropriate, invite C.O.A. members to use special services of the society such as medical library and other similar specific services available to society members.

(c) The concept is supported that at the local level members of C.O.A., where appropriate, be invited to attend scientific meetings, postgraduate courses and other local educational opportunities.

2. (a) With respect to consultation, the recent action of the A.M.A. House of Delegates states that at state level determination of individual relationships should be predicated on whether an individual D.O. supports and practices medicine and surgery on a scientific basis. The C.M.A. believes that all members of C.O.A. who have made written application for the M.D. degree have signified an intent to practice scientific medicine and surgery. Hence, such D.O.s should be considered as fully complying with the standards adopted by the A.M.A.

(b) With respect to hospital staff appointments, the policy should be as follows: The matter of staff membership is a decision for the staffs of individual hospitals, but that there is nothing to prevent the C.M.A. and its county societies accepting the concept that hospital staffs may be integrated if the integration follows the organizational structure specified by the Joint Commission on Accreditation of Hospitals.

17. *Liaison Committee to Social Welfare:*

Councilor Quinn reported on several 1961 House of Delegates resolutions. No. 39, he reported, is already law. (Implementation of the Kerr-Mills Bill.) On No. 69, the committee is prepared to see pilot

programs initiated, with the consent of the county societies.

Dr. Quinn also reported that a physician who allegedly overprescribed for PAMC patients is now before a county grand jury on possible fraud charges. He recommended that physicians guilty of such practices be dropped from PAMC participation or otherwise disciplined. On motion duly made and seconded, his report was approved with the recommendation that the State Social Welfare Board adopt regulations to control vendors who, after reasonable hearing, are shown to be abusing the PAMC program.

Mr. Webb Burke of C.P.S. reported on exploratory discussions held on a proposed prepayment program for OAS beneficiaries.

18. *Commission on Community Health Services:*

Dr. MacLaggan reported that health information column previously discussed was in preparation and that numerous suggestions had been received. All questions and answers in this series, which will be presented to newspapers desiring to use it, are being checked for professional accuracy. He suggested that several activities within the commission be closely coordinated with the Committee on Public Relations. On motion duly made and seconded, it was voted to refer the health information column and other activities to the chairman of the Committee on Public Relations.

19. *Legal Department:*

Mr. Hassard reported on a recent Superior Court decision in a case filed by a group of chiropractors who sought to expand the scope of their practice to permit the practice of obstetrics, minor surgery and the prescribing of drugs. The court held that the practice of chiropractic was limited to that practice as taught in chiropractic schools in 1922, when the chiropractic initiative was adopted by vote of the people. This decision, if it stands, will limit the scope of chiropractic education so severely that prospective students may see fit to go into physical therapy or other recognized forms of paramedical procedures.

20. *Chartered Air Trips:*

On motion duly made and seconded, it was voted to approve the proposal of a specified travel agency to provide chartered international air tours, provided adequate staff supervision were provided by C.M.A. staff.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:00 p.m.

SAMUEL R. SHERMAN, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

— In Memoriam —

ALLEN, ROY EARL, Reedley. Died July 20, 1961, in Reedley, aged 78. Graduate of Ensworth Medical College, St. Joseph, Missouri, 1904. Licensed in California in 1926. Doctor Allen was a member of the Fresno County Medical Society.



BENNETT, EDWIN S., Morro Bay. Died August 22, 1961, at Morro Bay, aged 73. Graduate of New York University College of Medicine, New York, 1914. Licensed in California in 1920. Doctor Bennett was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



BOREN, RALPH CLINTEN, San Diego. Died August 23, 1961, in San Diego, aged 57. Graduate of the University of Illinois College of Medicine, Chicago, 1930. Licensed in California in 1932. Doctor Boren was a member of the San Diego County Medical Society.



BROWN, WALTER BIGELOW, Livermore. Died April 14, 1961, aged 61, of chronic hepatitis. Graduate of Rush Medical College, Chicago, Illinois, 1930. Licensed in California in 1931. Doctor Brown was an associate member of the Alameda-Contra Costa Medical Association.



BURSELL, ARVID, Enterprise. Died July 27, 1961, in Enterprise, aged 83, of heart disease. Graduate of the University of Oregon Medical School, Portland, 1908. Licensed in California in 1923. Doctor Bursell was a member of the Shasta-Trinity County Medical Society.



CHILTON, FRANK NIFONG, Campbell. Died August 12, 1961, in San Jose, aged 75. Graduate of Washington University School of Medicine, St. Louis, Missouri, 1909. Licensed in California in 1923. Doctor Chilton was a retired member of the Santa Clara County Medical Society and the California Medical Association, and an associate member of the American Medical Association.



CORNEILLE, JAMES G., Mt. Vernon, New York. Died November 14, 1960, aged 73. Graduate of the New York University College of Medicine, New York, 1914. Licensed in California in 1924. Doctor Corneille was a member of the Alameda-Contra Costa Medical Association.



CUMMINGS, JOHN ELWIN, Los Angeles. Died August 2, 1961, in Houston, Texas, aged 59. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1929. Licensed in California in 1929. Doctor Cummings was a member of the Los Angeles County Medical Association.



FATH, ALICE, Fresno. Died August 16, 1961, aged 62. Graduate of Johann Wolfgang Goethe-Universitat Medizinische Fakultat, Frankfurt-am-Main, Prussia, Germany, 1927. Licensed in California in 1935. Doctor Fath was a member of the Fresno County Medical Society.

HOILLEN, MAURICE JAMES, Eureka. Died August 14, 1961, in Palo Alto, aged 57. Graduate of Rush Medical College, Chicago, Illinois, 1931. Licensed in California in 1931. Doctor Hoilien was a member of the Humboldt-Del Norte County Medical Society.



JONES, GEORGE WILSON, Los Angeles. Died August 21, 1961, in North Hollywood, aged 64. Graduate of Rush Medical College, Chicago, Illinois, 1922. Licensed in California in 1922. Doctor Jones was a member of the Los Angeles County Medical Association.



LEVEN, AARON SAMUEL, Los Angeles. Died August 22, 1961, in Beverly Hills, aged 64, of myocardial infarction. Graduate of Kansas City College of Medicine and Surgery, Missouri, 1919. Licensed in California in 1945. Doctor Leven was a member of the Los Angeles County Medical Association.



MICHAEL, RALPH H., JR., North Hollywood. Died August 8, 1961, in North Hollywood, aged 44. Graduate of George Washington University of Medicine, Washington, D. C., 1943. Licensed in California in 1943. Doctor Michael was a member of the Los Angeles County Medical Association.



ORCUTT, ARTHUR HENRY, Oakland. Died August 8, 1961, aged 69, of carcinoma metastatic to liver from prostate. Graduate of the University of Illinois College of Medicine, 1918. Licensed in California in 1923. Doctor Orcutt was a member of the Alameda-Contra Costa Medical Association.



PINNEY, IONE, Los Altos. Died August 7, 1961, in Los Altos, aged 96. Graduate of Bennett Medical College, Chicago, Illinois, 1910. Licensed in California in 1928. Doctor Pinney was a retired member of the San Joaquin County Medical Society and the California Medical Association, and an associate member of the American Medical Association.



STEIN, HAROLD LAWSON, Inglewood. Died August 7, 1961, in West Los Angeles, aged 37. Graduate of George Washington University School of Medicine, Washington, D. C., 1950. Licensed in California in 1956. Doctor Stein was a member of the Los Angeles County Medical Association.



STELHORN, ALBERT FREDERICK, Rosemead. Died August 10, 1961, in San Marino, aged 57, of heart disease. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1930. Licensed in California in 1930. Doctor Stelhorn was a member of the Los Angeles County Medical Association.



TRETHEWAY, LESTER EMMET, Aptos. Died August 14, 1961, in Palo Alto, aged 72. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1916. Licensed in California in 1916. Doctor Tretheway was a member of the Santa Cruz County Medical Society.

Occupational Medicine Today

PERHAPS the earliest of the several functions identified with occupational medicine is the emergency treatment of industrial injuries. It once accounted for most of the effort in the field of occupational medicine. Today, this has changed. The emergency treatment of industrial injured has descended to a position of lesser importance.

Occupational injuries now account for a very small portion of the total cost of illness to industry: Costs of accidental injuries and occupational diseases are less than one-third the sick leave costs of nonoccupational illness and injury. The workman who is injured in a large plant expects, and rightly so, to receive the finest emergency medical care as soon as possible, and he looks to the company for this benefit.

As the field of occupational health becomes more complex, it has logically followed that the field of environmental hygiene is becoming increasingly important to the physician in occupational medicine. New processes involving new chemicals are being developed every day to produce new and better products for the public.

The elimination and control of occupational hazards due to various gases, solvents and dusts or to ionizing radiation, is a responsibility of the physician in occupational medicine, working with other departments concerned in a company. There are special problems connected with the diagnosis and treatment of these exposures which require knowledge of the chemical make-up and toxicologic features of the substances involved.

A physician practicing occupational medicine knows the processes and chemicals involved and is in a position to recognize the special kinds of occupational exposure with which an employee comes into contact and to diagnose and treat the ills that may result.

Due to the complexities of modern industrial processes, a private practitioner may unwittingly become a party to an unwarranted claim of occupational disease or injury. The diagnosis of occupational disease should be based on scientific method, not hearsay, and in these cases private physicians should consult with physicians who specialize in occupational medicine.

Counseling on emotional problems, both occupational and nonoccupational, is not always feasible in a busy private office, and many of such problems first come to light in the industrial medical department. They do not necessarily call for a trained psychiatrist, but rather for a physician who has been taught something of psychological and emotional reactions, who knows the temperament of the individual, is familiar with the occupational situation and has time to talk to the patient.

The art of medicine practiced by the country physician consisted mainly in good two-way communications between the doctor and the patient. In a busy private office these communications may be difficult. Many physicians in occupational medicine are helping to hold this gateway of communications open.

COMMITTEE ON OCCUPATIONAL HEALTH
CALIFORNIA MEDICAL ASSOCIATION

*This is the first of a series of articles prepared by the Committee on Occupational Health.

NEXT | RELATIONSHIP OF OCCUPATIONAL
MONTH | MEDICINE TO PRIVATE PRACTICE

Maternal MORTALITY REPORTS

These case reports are taken from the files of the State Department of Public Health which, together with the California Medical Association, now sponsors the statewide studies of all maternal mortalities. Selected cases are here presented from time to time as a matter of interest and illumination to all physicians concerned with the practice of obstetrics. They are prepared by the Committee on Maternal and Child Care. It is hoped that a review of such significant cases will help to improve the welfare of future California mothers.

CASE NO. 5

THIS PATIENT was a 33-year-old Mexican, gravida 4, para 1. Following two spontaneous abortions she carried a pregnancy to term two years before her death. She was delivered by cesarean section after a pregnancy said to be 44 weeks, and the infant weighed 12 pounds but was stillborn. Approximately six months later a diagnosis of diabetes mellitus was made and the patient was maintained on a moderate dosage of insulin.

During the current pregnancy the patient was seen from the third month of gestation onward, with weekly visits alternating between an obstetrician and an internist. Insulin dosage ranged between 80 and 100 units daily, type not specified. The patient cooperated poorly in her medical regimen, and control of the diabetes was reported as "difficult." "Excessive" weight gain occurred, but no other signs or symptoms of toxemia developed.

The patient was first admitted to the hospital at the 36th week of pregnancy for evaluation of the diabetes and for elective cesarean section and was observed for three days before operation. The only blood sugar determination, two days before operation, was 22 mg. per 100 cc., and at this time the CO₂ combining power was determined at 12.5 mEq. per liter. Urinalysis was negative for protein, sugar, or significant microscopic findings. The blood pressure was 100/60 mm. of mercury. Hemoglobin content was 9.4 gm. per 100 cc. of blood and the packed cell volume was 30 per cent. There is no record of any iron therapy or of preoperative transfusion.

A half hour before cesarean section, 25 mg. of promethazine (Phenergan®) and 0.4 mg. of scopolamine, were given. At this time also, 80 units of lente insulin was administered. Intravenous administration of glucose solution (5 per cent in water) was started just before induction of anesthesia.

Spinal anesthesia was then induced with 15 mg. of tetracaine (Pontocaine®) given with the patient in sitting position. She was then placed in Trendelenberg position. Almost immediately she became

very pale, air-hunger developed and the pulse became "very rapid." At once her position was leveled and oxygen administration with bag breathing was attempted. By this time the blood pressure was unobtainable. Almost simultaneously the following measures were employed: (1) one ampule of Vaso-soxyl® (methoxamine hydrochloride) intravenously and one ampule intramuscularly; (2) 30 ml. of 50 per cent glucose intravenously; (3) one ampule of levarterenol bitartrate (Levophed®) added to the intravenous infusion; (4) endotracheal intubation with 20 mg. of diacetylcholine (Anectine®) used as a relaxant; (5) within the hour after initial shock, 40 mg. of metaraminol (Aramine®) and "more" Levophed® added to the infusion. Fetal heart tones disappeared soon after the initial development of shock.

One hour after induction of anesthesia, the blood pressure was again measurable at 90/50 mm. of mercury, and soon it rose to 135/100 mm. The pulse rate reached 120, and the patient became hyperactive. The endotracheal tube was then removed—one and one-half hours after initial anesthesia. Shortly thereafter signs of acute pulmonary edema developed, and the patient again went into shock. Endotracheal intubation was reinstituted and vasopressor agents were again given, as well as desacetyl-lantoside (Cedilanid®), hydrocortisone (Solu-cortef®), meralluride (Mercurhydrin®) and chlorothiazide (Diuril®). From the onset of anesthesia, a total of 2,600 ml. of intravenous fluids had been given, but blood transfusion is not mentioned. Despite these measures, the patient did not recover from shock and died two hours and 20 minutes after induction of spinal anesthesia. An electrocardiogram obtained just before death suggested a high blood potassium level. There were no convulsions at any time. At autopsy the following significant observations were made: (1) diabetes mellitus, severe (sugar content of postmortem blood, 1,520 mg. per 100 cc.); (2) evidence of shock and cardiovascular failure; (3) acute pulmonary edema, minimal; (4) hyperpotassemia—10.5 mg. per 100 cc. in clear, nonhemolyzed postmortem serum.

This case presents a considerable array of items calling for comment.

1. This patient's first term pregnancy produced a 12-pound infant, stillborn. Even though the duration of that pregnancy was said to have been 44 weeks, this should not have lulled the suspicions of the attending physician regarding the possibility of maternal diabetes, for postmaturity alone cannot bring about excessive fetal size. It is generally agreed that the delivery of a first or second child weighing more than 10 pounds warrants reasonably prompt maternal investigation for diabetes. Unexplained stillbirth makes the indication more imperative.

2. This pregnant diabetic patient was first admitted to the hospital at the 36th week of pregnancy. With certainty of good control of the diabetes, outpatient management of such patients is acceptable. When, however, there is the slightest difficulty in maintaining good control, or if the patient is a juvenile or "fragile" diabetic, it is highly advisable to admit the patient to the hospital for study *early* in pregnancy in order to establish a diabetic regimen in meticulous detail—and maintenance of control may indeed require several admissions during the course of pregnancy.

From this point of view, care was considerably less than ideal for this patient, for at the time of her admission she was hypoglycemic and acidotic. Moreover, despite these worrisome laboratory findings, only a single determination of blood sugar and of CO₂ combining power was done. Obviously, the in-hospital study was grossly inadequate to obtain even adequate diabetic control, as was the short preoperative period of only three days—especially for a patient slated for a major surgical procedure.

3. Not only was preoperative preparation from the diabetic point of view poor, but operative risk was compounded when no attempt was made to correct the anemia before operation. Certainly no patient should undergo an elective cesarean section with a hemoglobin level of only 9.4 gm. per 100 cc. and packed cell volume of 30 per cent. Transfusion is urgently indicated in such circumstances.

4. Next, one might mildly question the propriety of using promethazine before operation in a patient with a blood pressure of only 100/60 mm. of mercury and due to have a spinal anesthetic. Even a mild hypotensive effect from it could well start a disastrous chain of events.

5. The advisability of giving the patient's full daily insulin dosage just before operation is questionable. We have no knowledge of the glycosuria status of the patient in the present case, but in

general it is good practice to have the patient "spilling" some sugar at the time of operation. If a full dosage of insulin is then given, large amounts of intravenous glucose solution must be administered. This patient did receive her full dosage just before operation, and 5 per cent dextrose solution was started intravenously, but not until the advent of shock was extra glucose given. It is probable that hypoglycemia and acidosis contributed materially to the degree and persistence of shock. Both tend to produce vasodilatation, which would reinforce the other shock-producing factors in this patient (see below). And it may well be that these vascular influences were added critical factors in the production of a vascular collapse which responded so poorly to vasopressor agents and terminated in irreversible shock.

6. The principal responsibility for the shock, however, must be assigned to the spinal anesthesia. This patient received 15 mg. of Pontocaine®, roughly equivalent to 150 mg. of procaine. This is a maximal dose of spinal anesthesia even for abdominal operation in a non-pregnant patient (range for such patients: 6 to 16 mg. of Pontocaine®). And the higher the dosage, the greater is the likelihood of "spinal shock." According to Dr. N. E. Assali, who has studied extensively the relationships of the hemodynamics of pregnancy to spinal anesthesia, two additional factors are operative in pregnancy which make "spinal shock" more likely than in a comparable non-pregnant patient:

(1) There is increased neurogenic tone—that is, maintenance of blood pressure is almost completely under autonomic control, with humoral mechanisms at a minimum. Thus, the blood pressure is more sensitive to autonomic blockade by spinal anesthesia. (It is important to remember that the reverse is true in a *toxemic* pregnant patient, the principal control of blood pressure then being by humoral mechanisms.)

(2) In a pregnant patient, there is pooling of blood in the lower extremities as a result of any lowering of blood pressure by spinal anesthesia. This greatly decreases cardiac output and is the principal factor in the production of spinal anesthesia shock in the non-toxemic pregnant patient. (When toxemia of pregnancy is present this mechanism is inoperative, "spinal shock" rarely occurring.)

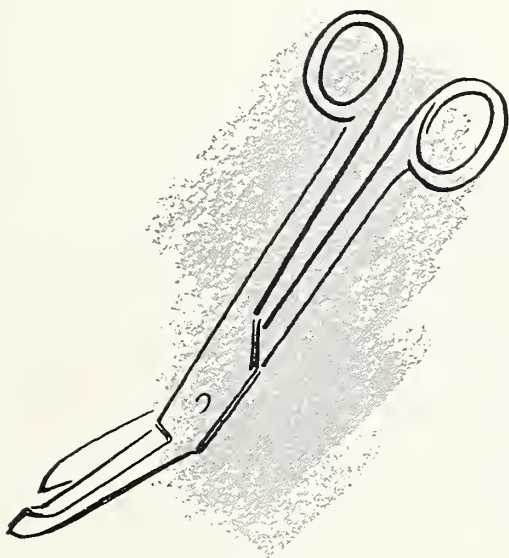
From his knowledge of these mechanisms, Dr. Assali makes the flat-footed statement that "*normal pregnant patients (and patients with essential hypertension) should be given a third the amount of spinal anesthetic administered to non-pregnant individuals.*" On this basis, a maximal dose of Pontocaine® would be in the range of 5 mg. Anesthe-

tists generally feel safe in employing 7 to 10 mg., but the latter dose is certainly the upper limit. It is significant to note that the anesthetist with extensive experience of spinal anesthesia in obstetrics tends to use smaller doses than does the debutant in this field.

In this patient, then, over-dosage of spinal anesthetic initiated the tragic terminal chain of events. When shock occurred, the single most important corrective measure was omitted—namely, raising the legs 90 degrees. Even simple Trendelenberg position is of some value, but not sufficient to restore the cardiac output. In the present case the

patient was actually "leveled," and there is no mention of any leg-raising maneuver. Dependence was placed instead on vasopressor agents, and they were not adequate to the task of restoring effective circulation of blood volume promptly enough to prevent irreversible damage from the spinal shock.

Elective cesarean section should be, today, an extremely safe operation. But, as this case illustrates, the opportunities for lethal errors of commission and omission are manifold, and are only avoided by thorough familiarity with modern knowledge and meticulous attention to its complete application.



Tissue Committee of a Hospital Medical Staff

A Report of the Medical Review And Advisory Board

SERVICE TO HUMANITY is the principal objective of the medical profession. Physicians, faithful to the honored traditions of the profession, recognize that they are trustees of medical knowledge and skills. The Code of Medical Ethics obliges all members of the profession to "strive continually to improve medical knowledge and skill, and . . . make available to their patients and colleagues the benefits of their professional attainments."

American physicians have developed, as an integral part of the practice of medicine, the concept that physicians admitted to privileges in the hospital, should organize themselves into a self-governing medical staff. Good hospital administration today and the law in many states which regulates hospital organization, have uniformly adopted this principle.

The ethical and legal concepts concerning continuing education and self-government of the hospital medical staff, have fostered the organization of medical staff review committees. Through the work of these committees, the public and professional responsibility of the whole staff, as well as that of each staff member, is promoted by a review and comparison of the medical work of each member of the staff. The right of medical groups, in good faith, to define and demand certain requirements of its members, has been upheld by the courts when these requirements have a reasonable connection with improving and maintaining the standards under which members practice their profession, and tend to regulate fair dealing among the members of the profession and with the public.

There is one medical staff review committee, or several, concerned with all or different facets of medical care rendered in a hospital. Frequently, the size of the hospital and the number of records to be reviewed determines the number of review committees needed. This paper will describe the tissue committee, its organization, purpose and function when it is separately established. However, some medical staffs will have one committee perform this and other functions. The general procedures outlined here would be applicable in both instances, with appropriate revisions and modifications.

The Model Medical Staff By-Laws recommended by the Joint Commission on Accreditation of Hospitals, suggests the formation of a tissue committee in the following language:

"The Tissue Committee shall include representatives of the departments of surgery, gynecology, ob-

stetrics, and such other departments as desired—usually the Pathologist should sit as a member of this committee or ex officio. The duties of the Tissue Committee shall be to study and report to the staff, or to the Executive Committee of the staff, on the agreement or disagreement among the preoperative, postoperative and pathological diagnoses and on whether the surgical procedures undertaken in the hospital were justified or not. This study will also include those procedures in which no tissue was removed. The report to the Executive Committee shall be in writing on at least a monthly basis."

Purpose of the Tissue Committee

The tissue committee's function is to further medical staff education and self-discipline. Its influence should be positive. By analysis and review of tissues removed, continuing education is afforded to elevate the caliber of medical care being provided in the hospital. The work of the tissue committee is not directly concerned with a particular patient's medical problem, or what should be done about it. It is, instead, a postsurgical activity, taking place usually quite some time after the patient has left the hospital, relating to the tissue removed. Study and comparison is made of the preoperative diagnosis with both the postoperative diagnosis and the pathologist's report. It charts and tabulates the facts and compares the results with its recent periodic reports and with recommendations of other hospitals, when available, in order that the practice of all can be improved by such knowledge.

Tissue Committee Method of Procedure

In general, there are at least three methods of operation this committee may use to review the surgical work of the staff or any part of it. First, the medical history itself may be reviewed. A second and rather simple and direct method is to make provision for one extra copy of the pathologist's report to be prepared and sent to the tissue committee, identified only by case number. When this system is used, the preoperative and postoperative diagnoses must be shown on the pathology report. The third method is to provide for a synopsis worksheet to be prepared by the records librarian which has posted to it such vital information as:

1. Patient's hospital number;
2. Patient's age;
3. Preoperative diagnosis;
4. Postoperative diagnosis;
5. Operative procedure;
6. Tissue removed, if any;
7. Tissue number;
8. Pathological diagnosis, if any; and
9. Operative and postoperative complications.

Approved by the Council of the California Medical Association, August, 1961.

The following is a description of the worksheet method to illustrate how it operates. Each hospital tissue committee ought to devise its own system, best suited to itself. The plan that is illustrated is used by many and can serve as a guide. In the interest of brevity, alternate plans are not outlined.

The committee chairman or other designated members review each worksheet. Where there is consistency throughout, and where no operative or postoperative complications occurred, the results are merely tabulated for the purpose of interim and annual reports. In those instances of diagnostic and pathological inconsistency, or occurrences of complications, the case is assigned to a member of the committee for a more detailed examination. The extent of further evaluation will include at least a review of the patient's chart, and may include a personal interview with the attending physician. Not only must this evaluation attempt to resolve reasonably any disagreement among the preoperative, postoperative, and pathological diagnoses, but it should also attempt to determine whether the surgical procedure performed was adequately indicated, and whether the quality of the work is acceptable.

At the next committee meeting, each member reports his findings to the entire committee for appraisal. The results and recommendations are then tabulated as before. Cases presenting unresolved inconsistencies or potential deficiencies in desired standards of care, are referred to an appropriate administrative medical staff committee (herein called the executive committee) for further evaluation.

At the bottom of each worksheet are four numbered items, each corresponding to the extent of investigation necessary. They are checked and dated when completed.

Check	Date
1.	Completed on worksheet.
2.	Completed on additional evaluation
3.	Referred to executive committee.
4.	Completed by executive committee.

The tissue committee chairman checks and dates the appropriate disposition contained within the first three items. All worksheets, regardless of the type and disposition by the tissue committee, are referred to the office of the executive committee for sorting and final tabulation. Those cases "referred to the executive committee" are presented to the next regularly scheduled meeting of that committee for further evaluation and final disposition. As each worksheet is complete in its routing, an indication of its final disposition is entered on a central file card maintained for each staff member of the hospital. The items to be entered on this card consist of

the patient's number, the number corresponding to the final disposition (Arabic numeral 1, 2, or 4), followed by the date of final disposition. Since these file cards are maintained only for purposes of identifying which cases have been reviewed, and in general, what percentage of such cases have required more than the information contained on the worksheet for evaluation, there need be no further comment. It should be remembered that a difference of medical opinion concerning a case need not indicate inadequate care.

CENTRAL FILE CARD

DOCTOR.....		
Patient Number	Disposition	Date
3425	1	2/17/60
6789	2	2/26/60
7127	1	3/ 5/60
7536	2	3/14/60
7718	4	3/22/60
7931	1	4/ 4/60

If a particular case requires corrective action concerning the attending physician, a written memorandum by the executive committee should be maintained in the physician's credentials committee file. In the absence of corrective action, there is no reason to maintain any records in addition to the information ultimately contained on the central file card as noted above. If at any later date it appears that a particular doctor is accumulating an excessive quantity of cases requiring executive committee examination ("4" on his file card), the various patients' records or microfilms thereof, so identified, can be rereviewed in concert by the executive committee to determine the presence or absence of a specific pattern of needed corrections. Self-discipline through staff education is promoted.

The Statistical Report of the Tissue Committee

The format of the periodic and annual report of this committee can be quite variable, but for proper educational value it should contain both statistics and comments. An example is as follows:

"The Tissue Committee reviewed 100 operations performed in this hospital during the month of July. In ninety of these cases, there appeared to be no question about the surgical indication for the removal of the tissue taken. In eight of the remaining cases, after the clinical record of the patient was reviewed, the committee reached the same conclusion. Two cases were referred to the Executive Committee for further review.

"Fifty appendices were removed: Thirty-six were reported diseased; ten were removed incidental to

other abdominal surgery; three were reported as not acutely diseased, but were justifiably removed on clinicosurgical grounds.

"Of ten uteri, ovaries, and Fallopian tubes removed, eight were reported diseased. The two remaining cases revealed justification on clinical grounds.

"This record would indicate a considerable improvement over the degree of diagnostic judgment since July of last year. Where the clinical record was examined, it was found to be in good condition. Improvement could be made, especially in the timeliness and completeness of the record. In one instance, an intern entered a conclusion which was not supported by the facts, and it had not been corrected by the attending physician."

The Admissibility of Tissue Committee Records and Testimony of Committee Members in Malpractice Suits

The question has frequently been asked, "Can the tissue committee records or the members of a tissue committee be subpoenaed in a malpractice action against the attending physician?" Within the knowledge of the authors, there is no case to date in which these issues have been presented and decided by the courts.

It should be remembered that a subpoena may be issued for the production of a record or the appearance of a witness, but that the record or the testimony might never be admitted in evidence during the trial of the suit. It would seem that based on established principles, tissue committee records or testimony of the members of the committee acting as a tissue committee, would not be admissible in a malpractice action.

First, there is no physician-patient relationship existing between the members of the committee and the patient. The committee does not examine the patient, nor do they consult with the attending physician during the course of treatment.

Second, the records of the tissue committee do not become a part of the clinical record of the care rendered a patient. They are not required as part of the care, are not made contemporaneously with the treatment, and do not relate in any way to the treatment. These records are not original records con-

cerning the care rendered to a patient. They relate, rather, to the process of self-education and self-betterment of the medical staff as a whole.

Third, the committee records generally are tabular and relate to trends. They can be said to be strictly confidential intraorganizational studies for the purpose of improving medical staff knowledge, self-education and self-discipline. Committee members' acts and decisions, made in good faith to promote professional standards, are given a qualified or limited privilege.

Fourth, the standard of judgment used in the work of the tissue committee is a standard of excellence. This standard is irrelevant to the issue of the prevailing standard of care or diagnostic judgment used by the ordinary physician in a community.

CONCLUSION

The multiplicity of modern research achievements and rapidly changing trends are placing an almost overwhelming burden on the average medical and surgical practitioner. Even the most conscientious finds it increasingly difficult in the face of an active and demanding practice to read profitably a sufficient number of the better medical journals. Postgraduate courses in various medical centers are designed to help the busy practitioner to keep abreast of recent developments, but they must necessarily be limited in subject matter and doctor exposure.

As a matter of fact, any program of continuing education, whether by articles, courses, seminars or the like, will be broadly effective only as far as the individual practitioner and his local group are apprised of and carry out the findings and recommendations of various developments.

To maintain and improve the quality of medical care, there is inestimable value in the continuous evaluation of current clinical practice and correlation of the findings with modern achievements and trends. The review of tissue and other medical activity can become an integral part of this educational program. A suggested plan for organization and operation of a committee to perform this review is discussed.

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, State Department of Public Health

CALIFORNIA is experiencing a new occupational disease in its mushroom-growing industry, similar to a disease which has been reported among mushroom farm workers in Pennsylvania and in Ontario, Canada.

Although California has been raising commercial mushrooms for more than 40 years, the new disease first appeared during the spring months of 1960, and developed again in increased severity this spring. Some 80 men, all of them employees of one large growing establishment, have been affected to date.

The disease, although severe, with fever and chills, cough, nosebleed and skin trouble, does not appear to endanger life nor permanently incapacitate. The cause is suspected to be a yet unidentified mold spore that has infected the mushroom beds and that affects the growers only when they break up the mushroom beds at the end of each growing cycle.

The Bureau of Occupational Health has spent considerable time and effort to determine the true nature of this new occupational problem, which as yet has not been fully described in the medical literature. Endeavors are being made to prevent spread of the disease to the more than 60 other growers in California.

Two informal public meetings on proposed regulations for carrying out the provisions of the compulsory school poliomyelitis vaccination law have been scheduled for Los Angeles on October 3 and in Berkeley, October 17.

A draft of the regulations was prepared following department discussion with representatives of the State Department of Education, California School Board Association, California Junior College Association, and superintendents of several school districts.

Purpose of the public meetings is to give all interested parties an opportunity to express their views on the proposed regulations, which will be considered for adoption at the December 3 meeting of the State Board of Public Health.

The proposed regulations already have been reviewed by the department's ad hoc Advisory Committee on the Prophylaxis of Poliomyelitis, and two committees of the California Conference of Local Health Officers.

The Surgeon General of the U. S. Public Health Service recently took note of the likelihood of an upswing of influenza during the coming winter. He said we probably are due for some Asian influenza outbreaks, since they come in two to three-year cycles, and we are overdue for Type B influenza outbreaks which come in four to six-year cycles. Asian influenza has been dormant since March, 1960, and it has been more than six years since there has been much of Type B in this country.

There was no evidence of influenza in California during the 1960-61 season. California did experience a widespread outbreak of a respiratory viral disease in February and March of this year, mainly in infants and children. This outbreak, however, was not caused by either A or B, and was not traced to any specific agent at the time.

Many physicians probably vividly recall the last severe, although short, influenza epidemic during the first three months of 1960 in California. That epidemic also was felt throughout the nation and led to a substantial increase in total morbidity and mortality. In California it was estimated that a total of 3,500 "excess deaths" occurred during that period. Of these, about 1,000 deaths were directly attributable to influenza and pneumonia while the remainder was in increase of deaths from other causes, notably cardiovascular and chronic pulmonary diseases.

Again this year the department will ask several local health departments to participate in the annual Influenza Surveillance Program, beginning November 1. The program serves as a rapid detection mechanism to pinpoint any unusual outbreaks of respiratory disease. One of its aims is to obtain specimens early for rapid identification of the prevailing organism and to assess if possible the extent of the outbreak.

The department again this year recommends that certain persons be vaccinated against influenza; in particular, persons at all ages with cardiovascular or pulmonary conditions, persons over the age of 65, and pregnant women. In years of expected high incidence, vaccination is recommended for key community groups, such as persons in medical and health services, public safety, public utilities, transportation, education and communications, and persons in age groups in which influenza occurs in highest incidence, namely, five to 25 years.



WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION

Health Careers

TODAY, as we enter a new decade, there are ever widening horizons before us. People everywhere have been taught that American medicine is the finest in the world. We are expected to be leaders in providing both preventive and corrective health care. Many in the health field careers contribute to that reputation, and find that they are engaging in professions of greater opportunity, challenge and rewarding satisfaction than ever before. In order to "preserve and enhance the heritage of American Medicine" our objective must be to encourage and guide the intelligent young students of today into one of the health careers where they can carry on our great traditions and contribute to solving the needs of tomorrow. These needs cannot be solved by increasing the number and size of training facilities or loan and scholarship funds, *unless the students are available.*

It is no longer true that it is difficult to enter medical school; or that only "A" students are admitted. Our medical schools are accepting one out of every two qualified applicants, and about two-thirds of the freshman students entering medical school have a "B" average. It is true that the high average student may find it easier to enter the school of his or her choice. There are many who do not have the real aptitude or desire for a medical career, and they must be informed of other exciting, stimulating and gratifying opportunities on the health team, such as physical therapy, occupational therapy, dietetics, medical records, medical technology, medical social work and so on. Here the physician has a golden opportunity to talk health careers to his young patients and their parents.

California is growing rapidly. It is estimated the population will increase another 10,000,000 between now and 1970. California does not now have enough nurses to meet the present demands for nursing service. The estimated need for additional hospital beds of all types is 47,972. To staff these additional hospital beds would require about 8,000 nurses. The number of graduations from Western nursing schools is not enough at present to replace the turnover. They will provide less than half the nurses needed by 1970 to maintain the present nurse-population ratio.

Informed estimates indicate that it would be possible and desirable to expand existing junior college and baccalaureate programs substantially if additional staff and facilities are made available. I have received many requests for information on the two-year program in nursing at junior

colleges, or on the Associate in Arts programs. There are twenty Associate in Arts programs in nursing in California at present.

The two-year programs in nursing which lead to an Associate in Arts degree include courses in nursing, social, biological and physical sciences, communication skills and the humanities. Nursing comprises from one-half to two-thirds of the curriculums that have been developed.

In order that the shortened program in nursing be a sound one, the nursing faculty exercises great care in selecting and organizing the clinical experience so that it will relate closely with the theory in nursing.

The curriculum is planned in accordance with college policies and the regulations of the State Board of Nurse Examiners. Students graduating from these programs are eligible for the same state examination for licensure as registered nurses as are graduates from the diploma and baccalaureate programs.

The emphasis of the two-year program is on direct patient care, and graduates fit into the over-all organization of nursing care as registered nurses, giving patient-centered care in beginning general duty nurse positions. They have knowledge and understanding of the principles of good patient care. They have been assisted in the development of attitudes and skills that are felt to be important for the graduate nurse with beginning competence and are ready to begin developing the advanced skills of an experienced practitioner.

We are all aware of the great need for bedside nurses, and the opening of the programs will provide a new source of supply for this need. Two-year programs have also been attracting students who might not otherwise consider nursing as a career. In addition to young men and women who have just completed high school, women who are married and have children who are able to care for themselves have become interested in nursing. The age range of students in some schools goes up to the fifties.

According to the evidence from the beginning collection of data, these graduates of the two-year programs are as capable as graduates of three-year or four-year programs.

Physicians' wives have demonstrated their willingness to accept the challenge of helping to provide the health workers of the future. Mrs. Leonard Offield, previous Health Careers chairman, reports that last year the Woman's Auxiliary to the California Medical Association sponsored 158 Health Careers clubs and granted 75 loans or scholarships totaling \$10,000. It has given \$72,000 since the program was inaugurated.

MRS. FENIMORE E. DAVIS
*Health Careers Chairman
Woman's Auxiliary to the
California Medical Association*

NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

A grant of \$5,000 to be used for a continuing study on fat metabolism of infants has been made to the Bruce Lyon Memorial Research Laboratory at Children's Hospital of the East Bay by the Gerber Baby Food Fund. Dr. Vasant S. Patil (Ph.D.), research fellow at the laboratory, is assigned to the research project.

LOS ANGELES

Dr. Adolph A. Kutzmann, associate professor of urology at Loma Linda University Medical School, Los Angeles, was installed as president-elect of the United States section of the International College of Surgeons at a dinner meeting of the executive council at the Lakeshore Club in Chicago on September 9, 1961.

* * *

A postgraduate course sponsored by the Council on Postgraduate Medical Education of the American College of Chest Physicians will be held at the Statler-Hilton Hotel, Los Angeles, December 4 to 8. This course, titled "Recent Advances in the Diagnosis and Treatment of Diseases of the Heart and Lungs," will cover the most recent developments, both medical and surgical, of this aspect of medicine. The faculty will comprise 85 distinguished specialists in the field.

* * *

Surgeons, graduate nurses and all related medical personnel are invited to the first of four 1962 sectional meetings of the American College of Surgeons in Los Angeles, January 29 through February 1. Headquarters hotel for the physicians' sessions will be the Statler-Hilton, and for nurses the Biltmore.

SAN FRANCISCO

Presbyterian Medical Center has just received a \$274,000 grant from the National Institute of Health, Bethesda, Maryland, toward the construction of a \$600,000 basic research laboratory with new facilities for cardiovascular and cancer research as well as for endocrinology and neurophysiology, according to Raymond L. Hanson, president of the Medical Center's board of trustees.

The new building is to be constructed as an integral part of the Medical Center, Clay and Webster Streets, San Francisco.

TULARE

Dr. Frank Clarke has been named winner of the 1961 Indian Achievement Award sponsored by the Indian Council Fire of Chicago.

In making the award to Dr. Clarke, a Walapai Mission Indian who practices medicine in Woodlake, the Council Fire explained that it is given each year to an American Indian who has "struggled to reach a definite goal and has succeeded."

Dr. W. W. Bauer, director of education of the American Medical Association, was the principal speaker at a dinner meeting in Chicago at which the award was presented to Dr. Clarke.

GENERAL

Medical Audits of Hospital staffs will be the topic of a one-day conference to be held at the Jack Tar Hotel in San Francisco, Wednesday, November 15, 10 a.m. to 5 p.m., and will be repeated in Los Angeles the next day, November 16 at the Huntington-Sheraton, Pasadena. The conferences, which are sponsored by the California Academy of General Practice, are open to physicians and hospital administrators. They will include presentations by Vergil Slee, M.D., Ann Arbor, Michigan, a leading authority on medical auditing; William Whelan, Esq., director of special services, California Medical Association; Stanley R. Truman, M.D., commissioner, Joint Commission on Accreditation of Hospitals; and Robert D. Burness, Jr., Esq., administrator of Mills Memorial Hospital, San Mateo.

A registration fee of \$10, to include luncheon and reception, will be charged. A program and registration form may be obtained from the California Academy of General Practice, Department C, Room 900, 9 First Street, San Francisco 5.

* * *

The Western Society for Clinical Research will hold its fifteenth annual meeting at Carmel on Thursday afternoon, Friday morning and Saturday morning, January 25, 26, and 27, 1962.

Information regarding the meeting may be obtained from the secretary, Dr. Homer R. Warner, Latter Day Saints Hospital, Salt Lake City 3, Utah.

* * *

The American Thyroid Association, Inc. has announced the opening of competition for the Van Meter Prize Award of \$500 to the essayist submitting the best manuscript of original and unpublished work concerning goiter—especially its basic cause. The studies so submitted may relate to any aspect of the thyroid gland in all of its functions in health and disease. The award will be made at the annual meeting of the Association in New Orleans, May 9 to 12, 1962. Deadline for submitting manuscripts is January 1, 1962. Particulars may be obtained from the Association's secretary, Dr. Theodore Winship, 430 N. Michigan Ave., Chicago 11.

* * *

The tenth annual convention of the Pacific Coast Fertility Society will be held at El Mirador Hotel in Palm Springs, California, November 9 to 12, 1961. Further information may be obtained from the Society's secretary, Dr. Gregory Smith, 909 Hyde Street, San Francisco 9.



THE PHYSICIAN'S *Bookshelf*

CLINICAL METHODS OF NEURO-OPHTHALMOLOGIC EXAMINATION—Second Completely Revised and Enlarged Edition—Alfred Kestenbaum, M.D., Lecturer, Formerly Associate Clinical Professor, New York University; Neuro-Ophthalmic Surgeon and Chief of Neuro-Ophthalmic Service, New York Eye and Ear Infirmary. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 577 pages, \$16.75.

The second edition of Dr. Kestenbaum's book on Neuro-ophthalmologic Diagnosis follows 15 years after his first edition. It is with considerable pleasure that we greet this expanded and modernized edition of a book which has become a classic in its field. Dr. Kestenbaum has revised every chapter but has maintained the general organization of his first edition. His chapter on neuroanatomy of the visual pathway has been greatly expanded to include not only a thorough review of modern visual and oculomotor anatomy but also a general survey of neuroanatomy as it pertains to neuro-ophthalmological problems.

Subsequent chapters on the visual field, the optic nerve, the chiasm, the ocular muscles, supranuclear gaze mechanism, nystagmus, and pupillary phenomena have been completely revised and modernized. Throughout the book one recognizes the personal interest and observations of a man who has been a life-long student of neuro-ophthalmology. The value of this work is increased by the addition of a greatly expanded bibliography and by the specific comments of the author regarding the value of the various ocular signs and examination techniques in terms of his own experience.

This book is not a primer for the student but rather a thoroughly sophisticated clinical work which should be a valued possession of the neurologist and the ophthalmologist alike for years to come. It is well printed and illustrated. The bibliography and the index are outstanding. In fact, the format comes up to the standards of Grune and Stratton.

FREDERICK C. CORDES, M.D.

* * *

YOU CAN PREVENT ILLNESS—Edward R. Pinckney, M.D., Former Assistant Editor of the Journal of the American Medical Association, and Director of the Comprehensive Medical Clinic at Northwestern University Medical School. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1960. 152 pages, \$3.50.

This well conceived, brilliantly written and exceedingly readable little book was written primarily to tell people what they can do to stay healthy and help protect themselves and their families from accident in disease. No home remedies or self-prescribing is mentioned anywhere in this text. Stress is definitely on prevention and thus this becomes an outstanding contribution to public health and health education. The emphasis on education and prevention is readily understandable since the author has long been an outstanding specialist in preventative medicine.

The volume covers a wide array of subjects from immunizations, inoculations, and vaccinations during infancy and childhood to coronary disease in old age. Medical subject

matter, usually difficult to describe, such as serum cholesterol values (one of the best chapters in the book), radiation, the measuring of x-rays, and the influence of stress on the human organism are explained in simple terms which are readily understandable and comprehensible to the average reader.

However, in this reviewer's opinion, the best chapter in the book is the last, written by the author's wife, Cathy. It deals with mental disease and its prevention. Cathy distinguishes between the real progress that psychiatry has made against neurosis and overt mental illness, and the harm that some analysts have done in sometimes imposing needless guilt feelings on patients. "There is too much needless guilt," says Cathy Pinckney, "suffered by the man who loses his house keys repeatedly, only to find months later that his child has been caching them away in the toy chest. He really does want to come home every night, despite what his wife, and her analyst say."

M. COLEMAN HARRIS, M.D.

* * *

CARDIAC ARRHYTHMIAS—A Guide for the General Practitioner—Brendan Phibbs, M.D., Casper Clinic, Casper, Wyoming. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis, 1961. 128 pages, \$7.50.

This small volume is designed as a simple primer to teach physicians who are not cardiologists to diagnose and treat cardiac arrhythmias. The material which the author has introduced is clearly described and illustrated and will be helpful to the general practitioner. There is insufficient detail and insufficient discussion of variants to be helpful to the experienced internist.

The text is accurate with a few exceptions, notably the following:

1. The author states that the most effective way of giving quinidine is to give a dose every hour for twelve doses and at the end of the twelve hours to check carefully for evidences of toxicity. There is no evidence of which the reviewer is aware that indicates that this is a more effective or safe method than when the drug is given at two to four hourly intervals. Further, the advice to check for toxicity after twelve hours suggests that it is not necessary to check before that time, whereas in fact the patient should ideally be checked before each dose.

2. The author recommends quinidine when ventricular tachycardia is the mechanism for Adams-Stokes attacks in complete heart block. This is generally considered to be unwise, and isuprel is preferred.

3. The author states that sinoatrial block is of no consequence. This is not strictly correct, since it often is the result of digitalis and may be the mechanism for Adams-Stokes attacks. Sinoatrial block may also occur during quinidine therapy.

In general, the clear text and diagrams will be helpful to those who want a short, "unsophisticated" account of the practical aspects of cardiac arrhythmias.

MAURICE SOKOLOW, M.D.

MANAGEMENT OF OBSTETRIC DIFFICULTIES—Sixth Edition—Revised by J. Robert Willson, M.D., M.S., Professor of Obstetrics and Gynecology, Temple University School of Medicine; Head of the Department of Obstetrics and Gynecology, Temple University Medical Center. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo., 1961. 687 pages, with 323 text illustrations and one color plate, \$16.50.

In this new edition of a book that has been available now for nearly a quarter of a century the name of Titus has been dropped from the title page and it now truly represents the new author's views and practices at the Temple University Hospital. As this reviewer noted in these pages when describing the previous edition, the title of the book has always seemed a bit misleading. Certainly it includes many subjects not generally thought of as "difficulties" in obstetric practice, and large segments of the text have nothing directly to do with management. Actually it is a modified textbook that lacks the usual basic anatomy and physiology of reproduction, but it offers a few extras such as an opening section on infertility and a concluding section on the newborn infant contributed by Vaughan and Laupus of the Department of Pediatrics in the Medical College of Georgia. The material in between is fairly standard information about prenatal care, complications of pregnancy, labor and puerperium, and the usual obstetric operations. It is very well written, nicely illustrated, and reads easily.

A considerable number of minor revisions have been made in order to include newer concepts that have become fairly well established in the last decade. These relate to such things as the incompetent cervix, prediabetes, use of diuretic and hypotensive agents in pregnancy, and fetal electrocardiography. Other material has been deleted, many inferior illustrations have been replaced by better ones, and the length of the volume has been cut by 50 pages. Finally, it has been completely reset in a most attractive new typographical format that will cost the buyer only one-third more than the previous edition.

The author says this book is intended as a reference for practicing obstetricians and residents, emphasizing practical and useful procedures, rather than a general text for students. Whether it is a better investment than one of the standard textbooks is a question with different answers for different people, and your reviewer chooses not to sit in judgment.

C. E. McLENNAN, M.D.

* * *

CHILDBIRTH WITH HYPNOSIS—William S. Kroger, M.D. Edited by Jules Steinberg. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1961. 216 pages, \$3.95.

This book seems to be based on concepts regarding pregnancy and childbirth which are of increasing acceptance in enlightened medical circles, such as: (1) With relatively infrequent exceptions, the common discomforts and dysfunctions of the pregnant women in our Western culture arise from conscious and/or unconscious irrational fears and emotional conflicts related to femininity, pregnancy, childbirth, motherhood, etc. (2) Pharmacological relief of these symptoms, especially general anesthetics and sedatives during labor and delivery, can be within safe limits for the mother but produce crucial and permanent damage to the baby. (3) The willingly conscious active participation of the mother in the delivery of her baby can be a beneficial experience for her in a very personal and gratifying way, and also benefits the on-going important mother-child relationship.

The application of these concepts to obstetrics has produced a great variety of "methods" such as the Read Method of Natural Childbirth and the Psychoprophylactic

Method in the Soviet Union. These "methods" and their many variations differ primarily according to the individual doctor's understanding and orientation towards the relative importance of the conscious and unconscious emotional and psychic factors in the experience of labor pains and other discomforts of pregnancy and his techniques for dealing with these factors.

This book emphasizes the usefulness of *hypnotic* techniques in reducing the pathogenic irrational emotional and psychic factors in the expectant mother, reducing the amount of chemical anesthetics, analgesics and sedatives and enriching the entire experience for the mother.

Dr. Kroger's apparent goal is to have his patient come eagerly to labor, free of fear and in an hypnotically induced state of mind and body in which the patient is consciously aware and cooperative throughout the labor and delivery. He does *not* advocate an hypnotically induced amnesia for the pains. By the time she reaches labor the several months of psychotherapy, using hypnotic techniques, have actually altered her emotional reaction to the "pains." Instead of being frightening and unbearable, the pain stimuli are welcome indicators of an immensely gratifying experience. How successfully does he achieve this goal? His statistical references vary but at one place he says, "We have delivered several hundred mothers by either pure hypnosis or a combination of hypnosis and chemoanesthesia. About 20 to 25 per cent of these patients . . . were carried through the first and second stages of labor without analgesia or anesthesia. Fifty per cent of all our patients required only minimal amounts of sedation, usually near the end of the first stage. Local anesthesia was used for the episiotomy and repair. Even if you consider the remaining 25 per cent—and remember that this smaller group includes abnormal labors—failures, hypnotically speaking, of course, the results are still worth the effort. *All* of our patients benefit, to a degree, by learning about hypnosis, because they are better equipped to face the emotional trials of motherhood."

In overall style, this is a strange book authored by an M.D. and "edited" by an editor and writer for "trade publications." The cover is ostentatious and uncomfortably superlative regarding the contents. It is not a medical book. It is openly written to "you"—the expectant mother—who "deserves to be told everything that science is doing to protect her health and that of her child during childbirth."

He goes into great verbatim detail reporting his hypnotic and auto-hypnotic techniques and suggestions. So much so, that it frequently gives the impression of a do-it-yourself manual. He then warns the reader against using any part of the techniques without complete supervision and advice of a competent M.D. He includes many impressive testimonial letters from appreciative and enthusiastic patients. His general and more specific treatment of the subject of hypnosis has some merit but, as repeatedly recurs throughout the book, there is a kind of shallow glibness which is a distraction to a scientific minded reader.

His advocating the use of hypnosis as an adjunct to exploratory, uncovering psychotherapy is deceptively pat. He inadequately stresses the degree of specialized training and supervised experience that a conscientious doctor would insist upon before attempting the depth of psychotherapy Dr. Kroger seems to be claiming for his methods.

Anyone unfamiliar with the use of hypnotic techniques in general and specifically in obstetrics could find some enlightenment in this book, but if he is seeking an authoritative scientific understanding of modern theory and practice of medical hypnosis he should look elsewhere to augment this peculiarly directed book.

MEHL McDOWELL, M.D.

PHARMACOLOGY—The Nature, Action and Use of Drugs—Second Edition—Harry Beckman, M.D., Chairman, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry; Consulting Physician, Milwaukee County General Hospital and Columbia Hospital; Editor, Year Book of Drug Therapy. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 805 pages, \$15.50.

This enlarged and thoroughly revised edition of a textbook by a skilled medical writer and learned pharmacologist should be widely received. It promises to be the successor to the encyclopedic Manual of Pharmacology of Torald Sollman, also published by the W. B. Saunders Company, and which went through eight editions. Although in his preface Dr. Beckman infers that his book is intended to give the medical student the information in abbreviated form, this second edition is already as large as Sollman's earlier editions.

Much to the regret of the reviewer, Beckman, like most other textbook writers, continues the practice of placing principles in the first part of the book. Teachers will do well to leave most of the subject matter of his Section I, "A Justification of Pharmacology and Pharmacologists" and Section II, "Some Pharmacologic Background," until the class members, through a study of Section III, "The Actions and Uses of Drugs," have sufficient specific information for the understanding of "principles." In other words, the pedagogic principle of going from the specific or concrete to the abstract should be followed. However, Professor Beckman possesses such a sense of humor and such literary skill that an introductory Section I, Chapter I, written by him at once holds the reader's attention, though he may know little about drugs at the time, while the average textbook writer would have had difficulty making his point clear without much detailed knowledge already possessed by the student.

Section II is made up of twelve chapters on such general topics as "Clinical Effects Achieved with Drugs," "The Nature of Drug Action," "The Fate of Drugs," and "Legal Control of Drugs." Even Dr. Beckman's interesting style is not sufficient to prevent bewilderment of the student who still does not know one drug from the other, with the possible exception of those referred to in his preceding courses of biochemistry and physiology, namely the neurohormones and strychnine. This is especially so for Chapter 11, "The Prescription." The teacher would be wise to introduce the student to pharmacology by plunging into the subject at Section III, Chapter 14, "Drugs That Stimulate Uterine Muscle" and as the occasion permits and demands, develop the principles which the author so ably discusses in his first two Sections.

Section III is well arranged for pedagogical purposes. The first division is entitled "The Pharmacology of Muscle" and is made up of nine chapters, beginning with drugs which stimulate or depress the smooth muscle of the uterus, then cardiac muscle drugs are discussed and finally the skeletal muscles. The intent is obviously to describe drug action in relation to a single type of tissue, namely muscle, without the complication of nerves. This cannot really be done, since as shown in his Chapter 19, the principal drugs affecting skeletal muscle act either at the neuro-muscular junction or on the spinal or higher central nervous system reflex structures.

In the next division, "The Pharmacology of Blood," four chapters are devoted to drugs having effects on circulating plasma or cells or their precursors, and avoids the nervous system more successfully. Then, beginning with Chapter 27 of the division entitled "The Pharmacology of the Blood Vessels," the autonomic nervous system as well as the muscle (or gland) becomes involved, leading up to "The Pharmacology of the Central Nervous System" with its eight chapters and 170 pages. Then the author returns to "The Pharma-

cology of the Autonomic Nervous System" with its seven chapters comprising 60 pages. Then follow the divisions on drugs altering function of the kidneys, liver and gall-bladder, gastrointestinal tract, infection, enzymes and hormones, vitamins, electrolytes and 12 chapters on miscellaneous topics.

Whatever may be the faults of organization for pedagogic reason (and the reviewer recognizes that his own opinion is not generally accepted by textbook writers), there is little to criticize in choice of material or in accuracy of statements Dr. Beckman has long experience in writing with the view of aiding the practitioner in the choice and use of drugs. He has few peers in his ability to write interestingly, yet with superb scholarship, about so difficult a subject.

CLINTON H. THIENES, M.D.

* * *

BONE CHANGES IN LEPROSY—Vilh. Möller-Christensen, M.D. Ejnar Munksgaard, International Booksellers and Publishers, Ltd., 6 Norregade, Copenhagen, Denmark, 1961. 51 pages, no price.

It is probable that most American doctors, even though they have never actually seen a leper, are vaguely familiar with the horrible deformities and spontaneous amputations which may result from leprosy. According to author Vilhelm Christensen, the number of lepers in the world is steadily increasing, there now being some 12,000,000 as compared with 7,000,000 in 1953. Dr. Christensen is a Danish general practitioner, and apparently became interested in leprosy through his excavations of certain church graveyards, where, during medieval times, a large number of leprous individuals were buried. His interest in this subject has extended over many years and the excavated material now embraces some 358 specimens, 123 of which are complete skeletons. In addition to this, his experience includes study of living lepers in various leprosaries in the Far East.

In Chapter One of the book he describes a new symptom complex, the "facies leprosa," defined as atrophy of the nasal spine, loosening and loss of the central incisors, due to atrophy and destruction of the maxillary alveolar process.

Chapter Two describes the various leprous lesions encountered in the nose, mouth and eye, while Chapter Three contains a description of the gross pathological changes observed in the osseous system, both in living patients and in the excavated skeletal remains. Over 90 per cent of the 123 complete skeletons exhibited pathological changes observed in the skull, there being atrophy of nasal spine in 70 per cent, atrophy of the maxillary process in 60 per cent, and evidence of inflammatory changes in the superior surface of the third palate in 90 per cent. Ninety-nine showed typical amputations, ankyloses, twisted fingers, etc. of the extremities, characteristic of neurogenic leprosy. These lesions are all well and profusely illustrated. One of the most interesting pathological changes was observed in the tibiae of some 25 of the skeletons. Their lateral surfaces are veritably corrugated, there being alternating ridges and furrows apparently created by the deposition of a number of long ridges of new bone running parallel to their long axes.

Anyone interested in the history of medicine can spend a pleasant hour reading through this well organized and concisely written little book. It contains only 48 pages of writing and some 15 pages (112) illustrations. It will obviously be of great value to that limited group of physicians who actually care for leprous patients. There is much of interest to the otologist, the roentgenologist and especially the orthopedic surgeon.

DON KING, M.D.

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In an article on testing of new drugs, Dr. Starr points out no tests done in advance can do more than indicate the likelihood that a new drug is safe and effective and "no one can make this decision but the doctor himself. Trial and error remains the final arbiter" in weighing the value of a new drug, he said.

Another article, by Dr. Charles M. Huguley Jr. of Atlanta, Ga., and associates, warns that certain drugs may produce disturbances in the blood and urges physicians "to use such drugs only when the potential benefits considerably outweigh the relatively small risk."

Among drugs in which caution was urged were quinidine, used in the treatment of certain heart conditions, and chlorpromazine, used for cases of mental disturbance.

Dr. Lloyd C. Miller of New York City, director of revision for U. S. Pharmacopeia, wrote that "the multiplicity of names for drugs is inevitable." The generic, or nonproprietary, name is usually chosen by concerted action of representatives of manufacturing, medical and governmental organizations and "the medical profession should cooperate in the effort to minimize confusion by using accepted non-proprietary names," Dr. Miller said.

Testing of drugs on laboratory animals is important in predicting their effect in humans, but animal testing has limits, wrote Dr. John T. Litchfield Jr. of Pearl River, N. Y.

"Many of the most serious side effects that can result when a drug is given to man were not predictable from observations on dogs or rats," Dr. Litchfield said.

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A careful evaluation of the tranquilizer drugs, plus reports on drugs used in more deepset psychological disturbances, is presented by Drs. Sidney Merlis and William J. Turner of Central Islip, N. Y.

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In order to achieve a high cure-rate, breast cancer must be diagnosed and treated before it spreads to other parts of the body, Drs. J. Gershon-Cohen, M. B. Hermel and S. M. Berger said in a recent *Journal of the American Medical Association*.

X-rays can detect breast cancers which cannot be felt and also can pinpoint their exact location, they said.

In a study of 1,312 women, free of breast symptoms, who were x-rayed at six-month intervals over a period of five years, the authors said they found 23 cancers—an incidence of 17.5 cases per 1,000. The majority, 12 cases, occurred in women between the ages of 41 and 50.

Probably the most important finding was that in 70 per cent of the cancers, the disease had not spread to other parts of the body, they said.

The study indicates that delayed diagnosis and treatment of breast tumors can be avoided by periodic x-ray examinations of women over 40.

"We believe this method of tumor screening could break the stalemate in attempts to improve the morbidity and mortality rates in this important category of cancer in women," they concluded.

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1. Hock, C. W.: Am. J. Gastroenterol. 34:293 (Sept.) 1960.

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REFERENCES AND REVIEWS

SYSTEMIC MANIFESTATIONS DUE TO ALLERGY—W. G. Crook, W. W. Harrison, S. E. Crawford, and B. S. Emerson. *Pediatrics*—Vol. 27:790 (May) 1961.

Allergy was found to cause systemic signs and symptoms in 50 children. Fatigue, pallor, infraorbital circles, nasal congestion, and mental and nervous symptoms were seen in most. Headache, abdominal pain, muscular aching, and a variety of other symptoms occurred in some. Incriminated allergens included foods (especially milk and chocolate) and inhalants. Although two-thirds of the patients had other allergies, such as asthma and hay fever, the systemic manifestations occurred independently and were due usually to different allergens. The criteria for diagnosis included: (1) relief of symptoms when the probable cause was eliminated, (2) precipitation of symptoms by reintroducing the cause, and (3) positive skin tests (inhalants). These cases, and those reported in the literature, suggest that systemic manifestations due to allergy are common, that they can be readily recognized, and that often they can be dramatically relieved by the elimination of a food from the child's diet.

METHOD FOR STUDY OF ARTERIAL PROFILE—O. J. Pollak and P. S. Morrow. *Arch. Path.*—Vol. 71:576 (May) 1961.

A method was devised to study the profile of coronary arteries, and to evaluate the location and degree of stenosis. Plaster imprints of longitudinally opened arteries were prepared, the casts were segmented with a saw, contours of the segments were traced, the tracings were enlarged with

a pantograph, and the width and height of excursions were measured. The technique does not interfere with chemical or histological studies of the arteries. Application of this method in comparative studies of arteries from persons of varying age, different sex or ethnic origin, and of arteries of subjects who had died of various diseases may help to advance our knowledge of atherosclerosis.

EFFECT OF PARATHYROIDECTOMY ON INCIDENCE OF RENAL CALCULI—M. G. McGeown. *Lancet*—Vol. 1:586 (March 18) 1961.

There were 68 cases of hyperparathyroidism amongst 405 patients (16.9 per cent) suffering from calcareous renal stones. Fifty-six patients were followed for periods of one to five years, and the effect of parathyroidectomy on stone recurrence was studied. In the postparathyroidectomy period 99 stones occurred in 401 patient-years, but there were only 8 in 158 postparathyroidectomy patient-years ($P < 0.001$). When each patient was treated as his own control, there was a significant difference between the observed and the expected figures ($P < 0.001$) for the five postparathyroidectomy years. The decrease in the incidence of stone recurrence justifies the search for hyperparathyroidism in all patients with calcareous calculi.

DIETARY LIPIDS, THROMBOSIS, AND CLOT-LYSIS—R. F. Scott, K. Alousi, and W. A. Thomas. *Arch. Path.*—Vol. 71:594 (May) 1961.

We have previously demonstrated in rats that diets containing large quantities of common fatty substances, such as butter (plus cholesterol, propylthiouracil and bile salts), will produce thromboses and infarcts, particularly in the

(Continued on Page 60)

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1. Youmans, J. B.: *Am. J. Med.* 25:659 (Nov.) 1958

cardiac diseases “Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease.”²

2. Kampmeyer, R. H.: *Am. J. Med.* 25:662 (Nov.) 1958.

arthritis “It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . .”³

3. Fernandez-Herlihy, L.: *Lahey Clinic Bull.* 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.⁴ Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.⁵

4. Sebrell, W. H.: *Am. J. Med.* 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: *Therapeutic Nutrition*, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases “Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult.”⁶

6. Overholser, W., and Fong, T. C. C. In Stieglitz, E. J.: *Geriatric Medicine*, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.⁷

7. Goldsmith, G. A.: *Conference on Vitamin C*. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: *Medical Science* 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.⁸ “Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes.”⁹

8. Duncan G. G.: *Diseases of Metabolism* 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: *Am. J. Med.* 25:708 (Nov.) 1958.

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REFERENCES AND REVIEWS

(Continued from Page 56)

heart and kidneys, and will result eventually in a form of atherosclerosis. We have also shown previously, and confirmed in the present study in a larger series, that such diets will prolong the clot-lysis times as compared with rats on normal diets. In addition, it is demonstrated that the freezing and storing of plasma samples in liquid nitrogen at -195.8°C . (-320.0°F .) does not alter this diet-induced prolongation of clot-lysis times. It is suggested that storage of plasma in liquid nitrogen for future analysis is a practical means of preserving specimens collected at different times and from widely separated geographic areas.

* * *

SODIUM METHICILLIN IN ROUTINE THERAPY—R. W. Fairbrother and G. Taylor. *Lancet*—Vol. 1:473 (March 4) 1961.

Sodium methicillin is effective against both penicillin-sensitive and resistant strains of *Staphylococcus aureus* and has marked bactericidal activity. Weight for weight, it is about 100 times less active than penicillin G against sensitive strains and about eight times less active than erythromycin against most strains. Resistance to methicillin develops readily in vitro; it has to be given intramuscularly at 4- to 6-hour intervals and has a relatively low grade of activity. Its use should be reserved for unusually resistant strains of *Staphylococcus aureus*.

* * *

ADMINISTRATION OF OXYGEN—J. A. C. Ball. *Lancet*—Vol. 1:591 (March 18) 1961.

The efficiency of oxygen administration employing an oxygen tent, a mask, and the Tudor Edwards spectacles was examined, using the level of arterial oxygen saturation as a criterion. The mask was found to be significantly better than

the tent or the Tudor Edwards spectacles; but the spectacles were found to raise arterial oxygen saturation a little higher than an oxygen tent. Reasons for preferring the Tudor Edwards spectacles as a general method of oxygen administration are given.

* * *

EFFECT OF FASTING ON LEVELS OF PLASMA NONESTERIFIED FATTY ACIDS IN NORMAL CHILDREN, NORMAL ADULTS, AND OBESE ADULTS—J. Corvilain, H. Loeb, A. Champenois, and M. Abramow. *Lancet*—Vol. 1:534 (March 11) 1961.

The plasma level of nonesterified fatty acids (NEFA) was found to be higher in children than in adults after an overnight fast of 14 hours. Prolonging the fast for five hours led to an increase in the NEFA level in both groups; this increase was significantly greater in children than in adults. The finding that children respond to fasting with a marked rise in plasma NEFA might be due to high growth-hormone activity. Obese adults have a higher plasma NEFA level than normal adults after overnight fasting. Prolonging the fast for five hours was not followed by any significant rise in plasma NEFA levels. These data emphasize the abnormal metabolism of fatty acids in overweight adults.

* * *

POSTURAL HYPOTENSION AS THE PRESENTING SIGN IN CRANIOPHARYNGIOMA—J. E. Thomas, A. Schirger, J. G. Love, and D. L. Hoffman. *Neurology*—Vol. 11:418 (May) 1961.

A case of craniopharyngioma is described in whom the presenting symptom, for over a year, was postural hypotension. Subsequent development of stress headache, diabetes insipidus and visual field defects established the diagnosis. The differential features of the case are discussed. Search for a space-occupying intracranial lesion should be a part of an investigation in every patient with postural hypotension.



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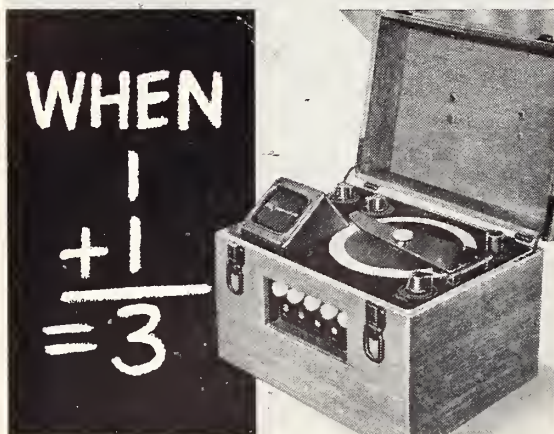


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Seat Belts Should Be Used In Open-Top Cars

Seat belts should be used in open-top as well as closed-top cars, according to a consultant for the *Journal of the American Medical Association*.

Dr. Robert P. Sim, New York City, writing in the September 2 *Journal*, said:

"Persons riding in open cars are more susceptible to injury by being thrown from the car than by being held securely in place. Remember that steel tops are frequently collapsed when cars turn over. That is why stock cars used in racing are equipped with roll bars."

There are no contraindications to having seat belts installed in cars, he said.

Polio Immunity Explained During Pregnancy

The fact that a mother has polio during pregnancy is far from a guarantee that her child will have lifelong immunity against the disease, a consultant for the *Journal of the American Medical Association* said recently.

The mother would be infected by only one type of polio and immunity to the other two types could not be anticipated in the child, Dr. Thomas Francis Jr., Ann Arbor, Mich., said in the September 2 *Journal*.

In addition, he said, there is no evidence that the unborn child is always infected when the mother is infected and unless this happens the child could not be expected to have active immunity against even one type of polio.

OPERATION FOR RECTAL PROLAPSE, USING STAINLESS STEEL RING—M. E. E. White. *Lancet*—Vol. 1:858 (April 22) 1961.

A Thiersch-type operation is described, which uses a stainless steel ring. The device consists of a hollow needle and stilette, each of $\frac{5}{8}$ th of circle, which when introduced around the anus form a ring. Advantages: The operation is aseptic; the ring is of standard size, it will not break; and there is no knot.

* * *

RADIOBIOLOGIC DESTRUCTION OF THE PITUITARY GLAND: INDICATIONS AND CLINICAL RESULTS—A. M. Dogliotti and A. Ruffo. *J. Int. Coll. Surg.*—Vol. 35:596 (May) 1961.

Destruction of the pituitary gland by means of sealed sources of radioactive material is being used more frequently in preference to hypophysectomy, since it involves a simpler and less hazardous technique. The indications for and the results in implantation of such substances are described. The clinical results obtained by the nonsurgical ablation of the pituitary gland are also reported.

* * *

CLINICAL USE OF A NEW SYNTHETIC PENICILLIN: PA-248—M. Nagley. *Lancet*—Vol. 1:851 (April 22) 1961.

This paper describes nine cases of respiratory infection due to *Staphylococcus aureus* treated with penicillin given orally. The new penicillin—alphaphenoxy penicillin—was effective in penicillin-resistant staphylococcal disease, and seemed to be as clinically effective as penicillin-V.

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Will Electronic Computers Restore GP to Preeminence?

The increased use of electronic computers in the practice of medicine might possibly return the general practitioner to his former preeminence, according to an editorial in the July 22 *Journal of American Medical Association*.

Discussing the role of the computer in medicine, the *Journal* said:

"It may be expected that computers will enter into almost all the intellectual activities of medicine except those which require imagination or those which by their nature require the personal relationship of doctor to patient."

Computers might be used to evaluate information on the patient's history collected by the physician, the editorial said. The machine also could deduce the diagnosis from the presence or absence of a list of symptoms; decide which laboratory tests should be performed, and calculate the best choice of treatment based on a collection of accurate statistical information, it said.

In performing these tasks, the editorial continued, the computer has the advantage of recalling accurately each time the correct statistics upon which to base its conclusion and its conclusion will not be biased by irrelevant factors.


Regarding the effect of these developments on the practice of medicine, the editorial said:

"Is it possible that the training of large numbers of expert diagnosticians may be unnecessary in the future and that the general practitioner, trained to collect information accurately from his patient and to administer certain forms of treatment expertly, may, with the help of a computer (as accessible as his telephone), handle the bulk of medical practice once again?"

"The medical student of the future may not be burdened with learning the great mass of statistical information concerning the likelihood of finding a particular symptom in a particular disease, as he now is in his years of clinical training. Instead, emphasis may be placed upon accurate data collection, effective management of the patient's psychological and emotional needs and administration of particular forms of treatment."

CORRELATION OF INSULIN REQUIREMENTS WITH THE CONCENTRATION OF INSULIN-BINDING ANTIBODY IN TWO CASES OF INSULIN RESISTANCE—J. H. Morse. *J. Clin. Endocr.*—Vol. 21:533 (May) 1961.

A correlation between the concentration of insulin-binding antibody and the degree of insulin resistance was demonstrated in two patients with insulin-resistant diabetes. Both patients had high antibody titers during the acute phase of insulin resistance. The titers decreased concomitantly with a decrease in the insulin requirement. These findings suggest that in some cases insulin-binding antibodies may account for insulin resistance.



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Treatment Can Prevent Deadly Insect Stings

An insect sting can endanger the life of certain sensitized persons, a Detroit allergist said recently.

Dr. Joseph H. Shaffer urged desensitization treatment for these individuals.

Writing in the August 19 *Journal of the American Medical Association*, he said sudden death is a real threat to persons once sensitized to stinging insects if they are resting.

"The most violent allergic reactions are caused by stings from insects of the Hymenoptera group (honeybees, bumblebees, wasps, yellow and black hornets, and yellow jackets)," he said.

"Persons who have been stung and have experienced mild or local reactions only may not need desensitization. Those persons who have experienced severe local and/or generalized allergic reactions from previous stings should, however, receive desensitization therapy. . . ."

The treatment consists of injections of whole body extracts of the wasp, hornet, bee and yellow jacket given at seven-day intervals at the start and tapering off to every four weeks over a three-year period.

Although this therapy is effective in about 95 per cent of those treated, Dr. Shaffer also recommended that sensitized persons be given an emergency kit for use if they are resting.

The kit includes tourniquets to apply above the sting if located on arms or legs, tweezers for removing the sting, and medication to offset generalized reactions, such as difficulty in breathing.

"Effective emergency treatment and desensitization therapy can, in most instances, nullify this threat to life," he said.

Bites from insects such as chiggers, ants, mosquitoes, gnats, fleas, houseflies, and other flies may cause local trauma or generalized reactions, he said. Patients sensitive to this group of biting insects also can be desensitized, he said.

Dr. Shaffer is chief of the division of allergy, department of medicine, Henry Ford Hospital.

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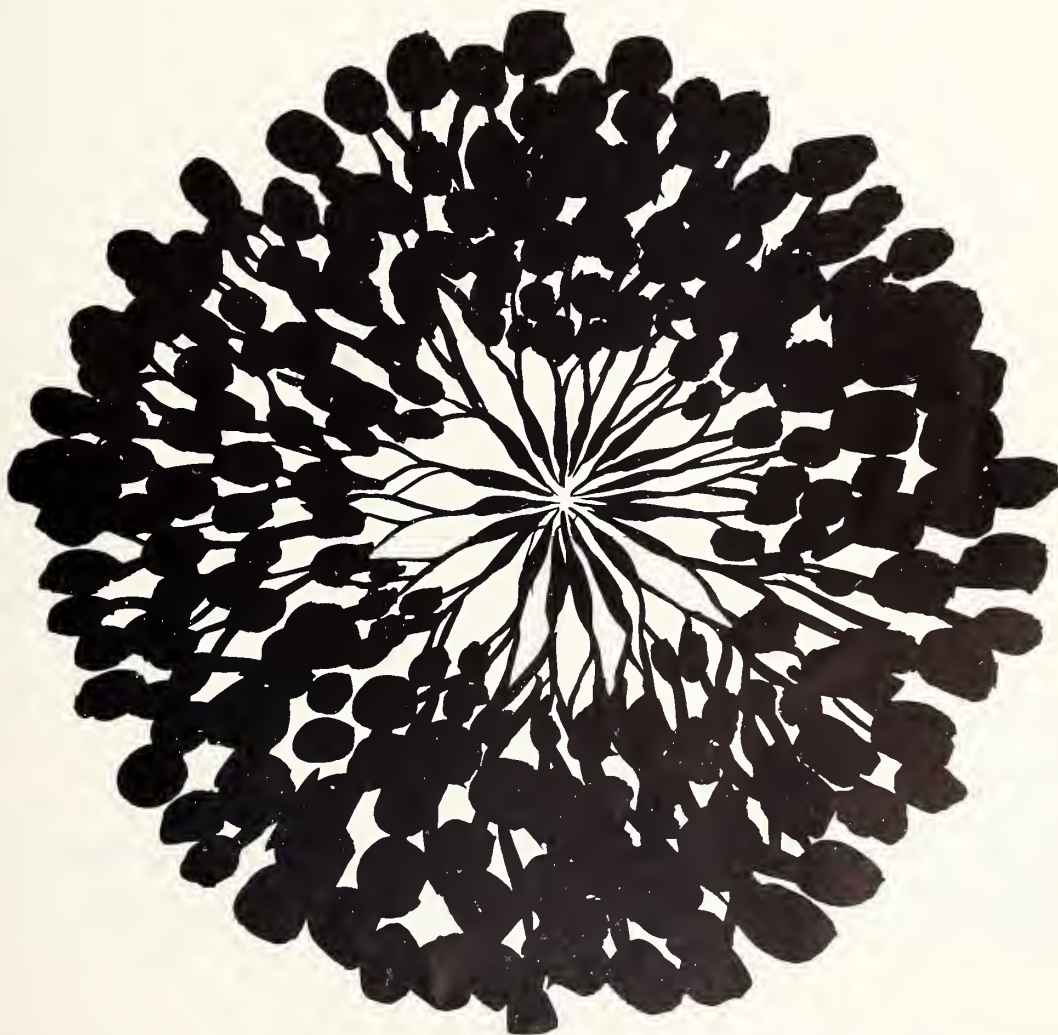
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New Virus Definitely Linked To Respiratory Ills

(Continued from Page 23)

Bronchiolitis, characterized by coughing, wheezing, and labored breathing, can be fatal in children unless promptly recognized and treated.

"Together, the RS, parainfluenza, influenza, adenoviruses, and Eaton agent may explain as much as 60 per cent of the respiratory ill that bring an infant or child into the hospital," the *Journal* editorial said.

Another report on the RS virus involved a blood sample study of a larger number of infants and children at the same hospital over a three-year period. Evidence of RS virus infection was detected 5.5 times more often in children with serious respiratory illnesses than in a control group, this study showed.

The authors, including Drs. Chanock, Parrott, Vargosko, Kim, and Miss Cumming, Horace Turner and Robert J. Huebner, M.D., estimated that 21 per cent of all respiratory disease among hospitalized children was associated with RS virus infection.

"One of the most exciting features of this study is the suggestion that a large proportion of the bronchiolitis and bronchopneumonia occurring over a 34-month period could be explained by RS virus infection," they commented.

"Another large segment of severe lower respiratory tract illness in the forms of bronchopneumonia and croup, has been related to parainfluenza viruses. An effective vaccine against these several agents given early in life, might protect infants against a significant segment of severe and often fatal bronchiolitis, bronchopneumonia, and croup."

The third report described a study in which the isolated RS virus was sprayed into the nose and throat of 41 adult male volunteers. Twenty of the volunteers developed an illness resembling the common concept of a "cold." Although it caused discomfort, it was not disabling. The illness persisted for an average of about six days.

Authors of this report were Drs. Chanock and Johnson with Howard M. Kravetz, M.D., Vernon Knight, M.D., J. Anthony Morris, Ph.D., David Rifkind, M.D., and John P. Utz, M.D.

"The observed illness was milder than that associated with RS virus infection in children, and it is suggested that this represented a protective effect resulting from previous infection," they said.

"A number of respiratory viruses have now been tested in volunteers, and some have been shown to cause a cold-like illness. While all aspects of the illnesses were not identical, clinical differentiation would be difficult. The point of greatest interest is the observation that agents of such widely vary-

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†"Equivalent" dosage: 0.1 mg. of sodium l-thyroxine (SYNTHROID) is equivalent to 1 gr. desiccated thyroid. Reference: 1. Sturnick, M. I., and Lesses, M. F. A comparison of the effect of desiccated thyroid and sodium levothyroxine on the serum protein-bound iodine. *New England J. Med.* 264:608 (Mar. 23) 1961.

ing properties and belonging to such different virus families . . . can produce illnesses of such similarity."

The fourth report included further studies involving the 41 adult volunteers made by Drs. Chanock, Johnson, Rifkind, Kravetz, and Knight. They found data to support the concept that essentially all adults have antibodies that ward off the RS virus and that RS virus infection is a common experience among young children.

The presence of RS antibodies in adults would make it difficult to raise the level of protection in this age group against the illness because a vaccine could not be expected to increase their antibodies, they pointed out.

Regardless of this, the *Journal* editorial commented, vaccines are "urgently required" to protect infants and children against the serious consequences of such viruses as RS.

Blood Disorder Linked to Infectious Mononucleosis

A blood disorder of unknown cause recently was linked to infectious mononucleosis.

Lt. Harold R. Schumacher, MC, U. S. Navy, Portsmouth, Va., writing in the August 19 *Journal of the American Medical Association*, said some cases of the blood disease known as thrombocytopenia may be due to latent infectious mononucleosis.

Thrombocytopenia is the medical term for a reduction in blood platelets, a blood component involved in coagulation.

Infectious mononucleosis is a disorder characterized by irregular fever and sore throat accompanied by abnormalities of the white blood cells and usually involving the lymph glands and spleen.

Lt. Schumacher described the first reported case of chronic thrombocytopenia as a complication of infectious mononucleosis.

Thrombocytopenia is a rare complication of infectious mononucleosis and in previous reported cases most patients recovered from the blood disorder in six weeks, he said. The chronic case required about six months' treatment, he said.

The onset of infectious mononucleosis is easily overlooked, Lt. Schumacher said, and when not seen in its early stages may be diagnosed later as thrombocytopenia. He suggested that patients diagnosed as having thrombocytopenia be questioned about symptoms suggestive of previous mild infectious mononucleosis.

TOXIC OPTIC NEUROPATHY: CASE REPORTS—O. W. Jones. Arch. Ophthalm.—Vol. 66:29 (July) 1961.

Toxic amblyopia caused by a new antihypertensive agent, 1-phenyl-2-hydrazinopropane (JB-516, Catron), has been described in eight patients. The major symptoms include blurring of vision and color-sense defects. Pathological examination of one case revealed bilateral optic-tract lesions.

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M 57	1½	4	400	1.7	0.15	8	290	4.4	29
F 71	2.3	8	260	0.7	0.2	10	200	7.0	11
F 65	2.4	8	552	2.3	0.2	8	299	4.5	9
M 67	1.3	5	360	2.4	0.2	6	230	6.0	12
F 70	3.4	9	600	1.7	0.2	4	340	6.6	4
F 62	1.3	10	299	1.6	0.1	8	164	3.9	3
F 59	4	8	420	2.0	0.2	3	215	7.0	5

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Reference: 2. Macgregor, A. G.: Lancet 1:329-332 (Feb. 11) 1961. *Brit. Pharmacopeia

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NEUROSURGEON—6 years private practice experience. California license. Desires location. Consider solo practice or association with established surgeon or group. Box No. 96,040, California Medicine.

GP—Age 50, family, 20 years experience general and industrial practice, would like salaried position with regular hours in California. California licensed, best professional references. Box No. 96,015, California Medicine.

PATHOLOGIST: PA/CP: Laboratory Director, Experienced Educator, Organizer, Administrator—desires relocation in California. Two years training in California, licensed 1947; age 39. Primary interests: Cancer—diagnosis and research, lymphomas, hematological disorders. Also trained in Internal Medicine. Academic appointment desirable or new institute, organizing and establishing laboratory or research program. Box No. 96,030, California Medicine.

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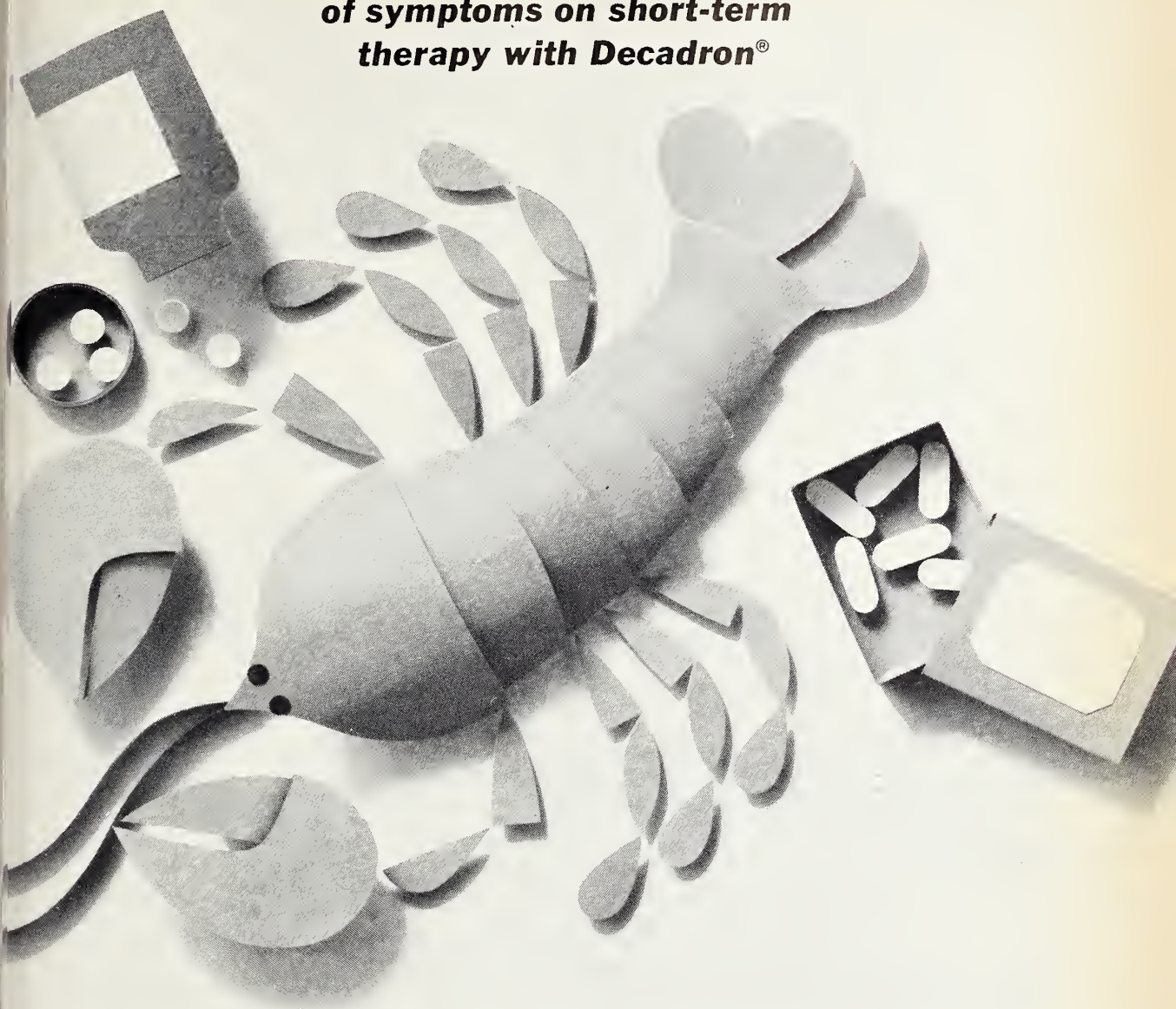
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(Continued on Page 79)

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References: 1. Grater, W. C.: Southern M. J. 53:1144, 1960. 2. Feinberg, S. M.: Med. Sci. 5:(No. 3)181, 1959.

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5th day	one 0.75 mg. Tablet DECADRON	per day
6th day	one 0.75 mg. Tablet DECADRON	per day
7th day	RETURN VISIT	

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REFERENCES AND REVIEWS

EARLY PHYSIOLOGIC NEPHRO-UROGRAPHY AS A TEST OF KIDNEY FUNCTION—R. L. Siggers. *Radiology*—Vol. 77:452 (Sept.) 1961.

Intravenous pyelography, if performed early enough after injection of contrast medium, will serve as a test of renal function. On films obtained at one-minute intervals beginning a minute after commencement of the injection, arterial insufficiency of the kidney is defined by the difference in rapidity of appearance of the calyceal phase on the two sides. The Goldblatt kidney can therefore be defined by pyelography. Two illustrative cases are recorded.

* * *

CYSTIC HEMANGIOBLASTOMA OF PONS—J. Myers, M. Scott, and A. Silverstein. *J. Neurosurg.*—Vol. 18:694 (Sept.) 1961.

A case of cystic hemangioblastoma of the pons is reported. The authors believe this to be the first report of this lesion within the pons. A review of criteria for diagnosis and brief discussion of hemangioblastomas is included.

* * *

A DETACHABLE CURTAIN RAIL—B. R. Frisby. *Lancet*—Vol. 2:297 (Aug. 5) 1961.

Window and bed curtains have been shown to be a rich source of pathogenic organisms. Unhooking the curtains for laundering is exhausting and tedious. This invention enables curtains to be taken down in a matter of seconds

on a piece of rail. Curtains of terylene are dipped in 1 per cent Tego MHG, drip-dried in half an hour and replaced, when they remain free from pathogens for a week.

* * *

NEURENTERIC CYSTS: REPORT OF A CASE OF NEURENTERIC CYST WITH ASSOCIATED CHRONIC MENINGITIS AND HYDROCEPHALUS—F. E. Jackson. *J. Neurosurg.*—Vol. 18:678 (Sept.) 1961.

A case of a child with a surgically proved neurenteric cyst with associated chronic meningitis and hydrocephalus is reported. The embryology of this defect is discussed. An analysis of the histology of the cyst and its similarity, in parts, to primitive mesenchymal tissue suggests the mechanism of development of this anomaly.

* * *

FOX-FORDYCE DISEASE—L. F. Montes, R. M. Caplan, G. M. Riley, and A. C. Curtis. *Arch. Derm.*—Vol. 84:452 (Sept.) 1961.

A series of endocrinological studies was performed in a woman with Fox-Fordyce disease. Correlation existed between higher premenstrual gonadotropin levels and increased premenstrual pruritus.

* * *

ASTROCYTOMAS AND ABO BLOOD GROUPS—B. Selverstone and D. R. Cooper. *J. Neurosurg.*—Vol. 18:602 (Sept.) 1961.

In a statistical study of 139 consecutive patients with astrocytomas of all grades, a highly significant decrease was found in the expected number of patients from blood groups O and B, as compared with control group from the

(Continued on Page 38)



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"Detergent Food" Cleans Teeth

"Detergent food" can help clean your teeth, according to Philip L. White, Sc.D., secretary of the Council on Foods and Nutrition of the American Medical Association.

The "detergents" are crisp, crunchy low-carbohydrate foods such as celery, carrot strips and radishes, he explained in the October *Today's Health* magazine, published by the A.M.A.

"Dentists and physicians are quite concerned with sticky, high-carbohydrate foods that adhere to the teeth," he said. "Such foods are quickly acted upon by the bacteria commonly found in the mouth, and the acids produced during this bacterial digestion can etch the enamel and thus produce a site for decay to begin."

Chewing "detergent food" can do much to remove sticky foods from teeth, he said.

County Societies Offered Medical Films

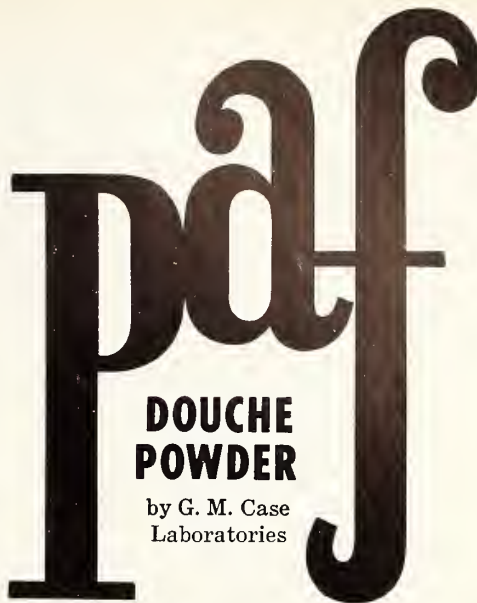
Medifilm Report III, presenting highlights of the American Medical Association's 110th Annual Meeting in New York City, has been made available to medical and allied groups by Schering Corporation in cooperation with the A.M.A. Department of Medical Motion Pictures and Television.

The 33-minute, 16 mm. black and white sound film features scientific exhibits, lectures and panel discussions. Host-narrator is Jeff J. Coletti, M.D., of Old Westbury, N. Y. Interested state and county medical societies may obtain a copy of Medifilm Report III by writing to the American Medical Association, 535 North Dearborn Street, Chicago 10, Ill., or to the Audio-Visual Department, Schering Corporation, Union, N. J.

Of special interest is a demonstration of external cardiac massage at the 1961 Gold Medal Award exhibit manned by Guy Knickerbocker and W. B. Kouwenhoven, both of Baltimore. A manikin is used to show the actual technique of closed chest cardiac massage.

Other subjects covered are office management of varicose veins (William Foley, M.D., New York, N. Y.); electrical anesthesia (James H. Hardy, M.D., Jackson, Miss.); new concepts in diabetes (Howard Root, M.D., Boston, Mass.); rubella in pregnancy (Frank Lock, M.D., Winston-Salem, N. C.); polycystic ovaries (Robert Greenblatt, M.D., Augusta, Ga.); the anxious out-patient (Jackson Smith, M.D., Chicago, Ill.); allergic reactions to drugs (Giles A. Koelsche, M.D., Minneapolis, Minn., and panel members); cine coronary arteriography (F. Mason Sones, Jr., M.D., Cleveland, Ohio); and part time medical mission work (Archibald Fletcher, M.D., India and Glendale, Calif.).

In conclusion, Dr. E. Vincent Askey, outgoing A.M.A. president, speaks on the theme of the 1961 convention—teamwork in medicine.



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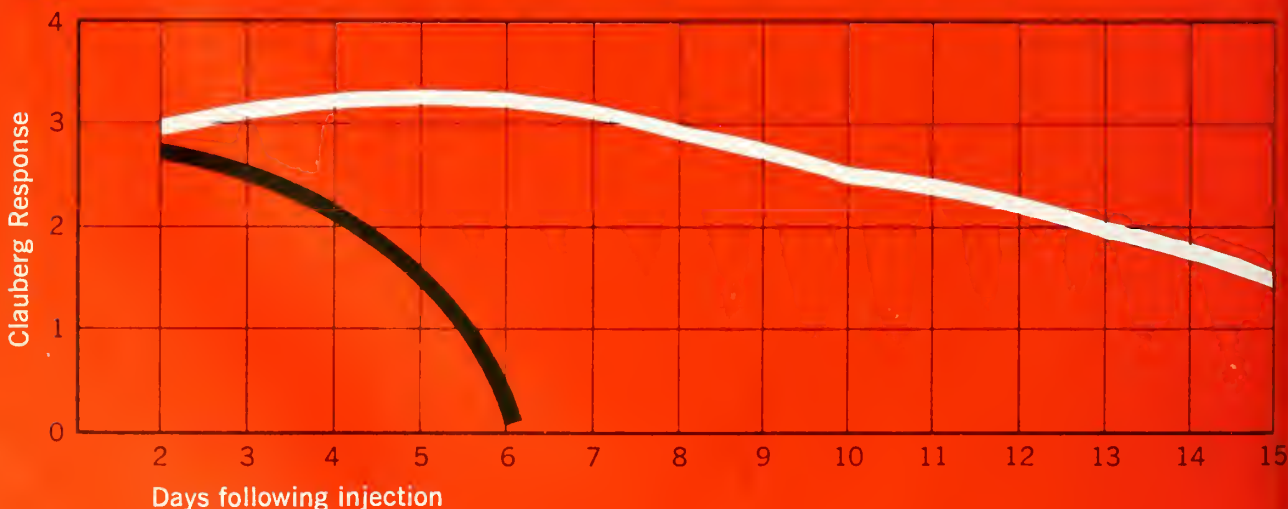
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Comparative effect of single subcutaneous injection of Delalutin and progesterone on the progestational changes (Claiberg Test) in the rabbit uterus.

Borman, A. Laboratory Report on the Duration of Action of 17-Alpha Hydroxy-progesterone n Caproate (Delalutin). The Squibb Institute for Medical Research, May 17, 1955.

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Complete information on administration and dosage is supplied in the package insert and in your Squibb Product Reference and Product Brief.

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First Photos of Hepatitis Viruses Appear in J.A.M.A.

The first photographs of hepatitis viruses appeared in the September 9 *Journal of the American Medical Association*.

Two pictures were published as part of a detailed report on the isolation of viruses causing hepatitis first announced by Dr. Joseph D. Boggs of Chicago on June 28 at the annual meeting of the A.M.A. in New York City.

The viruses were isolated from blood specimens of patients with infectious hepatitis, a disease which involves infection of the liver and often produces jaundice. The disease produces severe illness, lasting several weeks or months. Although seldom fatal, it sometimes results in permanent damage to the liver.

One of the published photographs shows individual virus particles in human cell cultures magnified 53,000 times. The other photograph, magnified 35,000 times, shows virus particles singly and in clusters in cell cultures five to six days after the cells were infected with the virus.

The viruses were photographed through an electron microscope and the picture then enlarged.

The photographs are included in the first part of a two-part article. The first part, concerning virology laboratory studies, was authored by Wilton A. Rightsel, Ph.D., Ruth A. Keltsch, B.S., Alton R. Taylor, Ph.D., and I. W. McLean Jr., M.D., the Research Laboratories of Parke, Davis & Company, Detroit, and Dr. Boggs, who is director of laboratories at Children's Memorial Hospital, Chicago.

Authors of the second part, concerning clinical trials, are Drs. Boggs, McLean and Richard B. Capps, the Liver Research Laboratory, Presbyterian-St. Luke's Hospital, Chicago, and Charles F. Weiss, Parke, Davis & Company, Ann Arbor, Mich.

An accompanying editorial hailed the report as the "first substantial evidence that the virus of hepatitis has finally been successfully cultivated in the laboratory."

Although much work remains to be done, the authors of the clinical trials said the capture of the hepatitis virus may eventually lead to the development of a vaccine.

Preliminary studies indicate that there are at least three types of hepatitis viruses, they reported. So far, only two of the three types have been shown to cause hepatitis and altered liver function, they said.

However, less than two dozen isolated viruses of the several hundred available for study have been classified as to type, they pointed out. One of the major tasks ahead is typing these unidentified strains and defining the ability of each new type to cause the disease, they said.

(Editor's Note: Prints of the photographs of hepatitis viruses may be obtained from Parke, Davis & Company, Detroit.)

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For adults: 2 teaspoonfuls, every 3 or 4 hours.

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For infants: $\frac{1}{4}$ to $\frac{1}{2}$ teaspoonful every 3 to 4 hours.

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REFERENCES AND REVIEWS

(Continued from Page 16)

same population. Further investigation is suggested of the possibility, that some factor associated with these blood groups, such as the presence of anti-A factor in the blood serum, may be associated with relative protection against tumors of the astrocytoma group.

* * *

THE USE OF A METHYLMETHACRYLATE SEAL IN CSF OTORRHEA AND RHINORRHEA—R. Kerr Jakoby. J. Neurosurg.—Vol. 18:614 (Sept.) 1961.

Methylmethacrylate at the stage of its polymerization was pressed into a variety of cranial fissures in order to seal the cranial vault; no foreign body reactions have been noted. In a patient with CSF otorrhea, subjected to two previous, intracranial operations, the condition appears to have been arrested with the use of this material. A second patient with CSF rhinorrhea was similarly treated with cessation of symptoms.

* * *

EXPERIMENTAL INTRABRONCHIAL ADMINISTRATION OF NEOMYCIN IN MAN AND ANIMALS—V. Lorian. Dis. Chest—Vol. 40:168 (Aug.) 1961.

Neomycin was administered either intrabronchially or parenterally, to 36 patients, 220 guinea pigs, and 28 rabbits, and the pulmonary neomycin concentration was determined bacteriologically. After three hours, those receiving the intrabronchial administration showed a pulmonary neomycin concentration 700 times higher than those receiving parenteral injection. Concentrations of 1,360 mcg/ml in the pulmonary tissue were found four hours after intrabronchial application. After 24 hours, the level was 40 mcg/ml.



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Therefore, according to the author, intrabronchial administration of neomycin is advisable in neomycin-sensitive pulmonary infections.

* * *

CONTROLLED STUDY USING ROUTINE INTERMITTENT POSITIVE PRESSURE BREATHING IN POST-SURGICAL PATIENT—J. Sands, C. Cypert, R. Armstrong, et al. Dis. Chest—Vol. 40:128 (Aug.) 1961.

The purpose of this study was to evaluate the routine use of intermittent positive pressure breathing in the patient subjected to upper abdominal surgery, in an effort to classify its true value in reducing postoperative complications. The results showed no prevention of postoperative pulmonary complications in patients subjected to upper abdominal surgery.

* * *

MODERATE AND SEVERE PNEUMOCOCCAL PNEUMONIA—J. B. Hill et al. Arch. Intern. Med.—Vol. 108:578 (Oct.) 1961.

Sixty-four patients with pneumococcal pneumonia, all moderately or severely ill, were treated with propionyl erythromycin, in the dosage of 250 mgs. every 6 hours. The average duration of therapy was 7.8 days. Sixty-two patients had a satisfactory response. No deaths or purulent complications occurred. None of the patients developed sensitivity reactions or gastrointestinal intolerance to the drug. This study would indicate that propionyl erythromycin is an effective form of oral therapy for moderate and severe cases of pneumococcal pneumonia.

* * *

PODOPHYLLIN LOTION FOR WARTS—L. Goldman, W. Cohen, and J. Palermo. Arch. Derm.—Vol. 84:505 (Sept.) 1961.

Effective topical therapy is still needed for plantar and periungual warts. A mixture of podophyllin, trichloroacetic acid, glycerin, and salicylic acid was devised and set up as a stable lotion. Directions for its use must be followed very carefully. The reactions are very severe. Patients must be informed in advance of the severity of these reactions.

* * *

DARIER'S DISEASE: AN EVALUATION OF ITS NEUROPSYCHIATRIC COMPONENT—R. S. Medansky and A. A. Woloshin. Arch. Derm.—Vol. 84:482 (Sept.) 1961.

Five cases are reported and the literature regarding the association of Darier's Disease and its neuropsychiatric component is reviewed. It is hypothesized that there might be some organic brain defect stemming from the intrinsic pathological process which heretofore has only been recognized on the skin.

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Each teaspoonful of FERROLIP PLUS LIQUID contains: FERROLIP 200 mg.; Liver Fraction, 1 N.F. 200 mg.; Cobalamin (B₁₂) (from Cobalamin Concentrate, N.F.) 10 mcg.; Thiamine Hydrochloride, U.S.P. 2 mg.; Riboflavin, U.S.P. 1 mg.; Pyridoxine Hydrochloride, U.S.P. 0.5 mg.

FERROLIP OB TABLETS

3 TABLETS PROVIDE: FERROLIP 150 mg.; Tricalcium Citrate, 750 mg.; Thiamine Mononitrate, U.S.P. 3 mg.; Riboflavin, U.S.P. 3 mg.; Niacinamide, U.S.P. 20 mg.; Calcium Pantothenate, U.S.P. 5 mg.; Pyridoxine Hydrochloride, U.S.P. 5 mg.; Ascorbic Acid, U.S.P. 100 mg.; Cobalamin (B₁₂) (from Cobalamin Concentrate, N.F.) 5 mcg.; Vitamin A 6000 U.S.P. Units; Vitamin D₂ 400 U.S.P. Units.

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Each teaspoonful (5 ml.) of FERROLIP-T contains: Thiamine Hydrochloride, U.S.P. 10 mg.; Cobalamin (B₁₂) (from Cobalamin Concentrate, N.F.) 25 mcg.; Pyridoxine Hydrochloride, U.S.P. 2 mg.; FERROLIP (equivalent to 50 mg. elemental iron) 417 mg.

California M E D I C I N E

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

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Volume 95

NOVEMBER 1961

Number 5

The Cytological Diagnosis of Gastric Cancer

CHARLES D. ARMSTRONG, M.D., Menlo Park; WILLIAM D. JOHNSON, M.D., and
RICHARD S. WILBUR, M.D., Palo Alto; and ARTHUR J. LACK, M.D., San Mateo

CANCER OF THE STOMACH, although declining in incidence, still accounts for approximately 7.8 per cent of cancer deaths in the United States, and the five-year survival rate after surgical operation for this condition, if patients with lymph node metastasis at the time of operation are included, is only 5 to 12 per cent. Without metastasis, subtotal gastric resection may produce five-year survival rates of 40 to 50 per cent.⁶ The vital importance of new methods for early diagnosis is evident.²⁶

It is fortunate that surface cells are readily desquamated from early carcinoma, either because there is less cement substance in malignant tissue, because growing cells beneath push them off or because there is necrosis which allows them to fall free.¹⁷ Methods by which the presence of these cells is detected are capable of identifying extremely small and early lesions before they are grossly apparent to the surgeon or pathologist¹¹ and at a time when they would completely elude diagnosis by clinical means.

METHODS

The techniques and applications of exfoliative gastric cytology have been recently reviewed* and an excellent monograph on the subject has been written by Shade.²¹ A review of reported methods²⁷

• Established centers find that cytological study of gastric washings with saline or chymotrypsin, adequately performed, is a valuable diagnostic tool in the detection of early and curable gastric carcinoma.

Our experience with a small series of 150 patients, studied by saline gastric washing, has emphasized the difficulties of collection and the particular importance of obtaining, by repeated washings if necessary, an adequate specimen of gastric epithelial cells for diagnosis, before an opinion is given.

It seems likely that the cytological method will be of future value in study of the natural history of gastric malignant disease and in detection of its surface lesions in their earliest form in asymptomatic, known-susceptible persons. Further, it should become a complementary part of the "stomach profile" in gastric diagnostic problems, where roentgenologic and gastroscopic studies may be expected to reveal the older, necrotic, or infiltrative lesions; cytological study, the earlier and more superficial stages of disease.

indicates that desquamated cells usually may be obtained by simple washing of the stomach with normal saline solution. All investigators have noted that a standardized, meticulous collection technique, performed by a dedicated person, is an important factor in success.

It is important to recognize that tumor cells are usually not exfoliated in a recognizable form from carcinomas which have become necrotic or ulcerated, even though these tumors may be so extensive that they are readily diagnosed by x-ray or gastroscopy.^{4,16,18}

*With the technical assistance of Grace G. Smith, M.D., and Paul H. Jewett.

Chairman's Address: Presented before the Section on Internal Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

*Reference Nos. 2, 5, 8, 9, 16, 19.

TABLE 1.—*Histologically Proven Benign Gastric Conditions (Findings by X-ray and Cytologic Study in 29 Patients)*

Number of Patients	Final Diagnosis	Diagnosis by					
		X-ray			Cytologic Study		
		Diagnosis Uncertain	Malignant (Proved Benign)	Identified as Benign	Opinion Deferred†	False Positive	Identified as Benign
18	Benign ulcer	7	3	8	5	....	13
2	Gastric polyp .....	....	1	1	....	....	2
3	Chronic gastritis	2	....	1	1	....	2
3	Miscellaneous benign gastric conditions.....	2	....	1	1	....	2
3	No gastric disease	1	....	2	2	....	1
29	Total cases	12	4	13	9	0	20
	Per cent of cases	41	14	45	31	0	69
†Specimen inadequate to permit forming an opinion.							

†Specimen inadequate to permit forming an opinion.

A skilled cytodiagnostician may examine one slide in 20 minutes, or six slides in two hours. The full time is required before a slide can be pronounced negative; a positive diagnosis can often be made after brief examination.

REPORTED RESULTS

Shade²⁰ reported that very superficial infiltration existed in 31 of 258 cases of carcinoma observed by him; and, of these, 18 were entirely unsuspected clinically and radiologically, and the diagnosis depended solely upon positive cytological findings.

False-negative results of cytological examinations are due to a failure to obtain or identify cancer cells in the smear and are frequently associated with the presence of gastric retention, submucosal tumor, or surface necrosis or ulceration of a tumor.²⁵ On the other hand, studies at established cytological centers have become so accurate that a negative report must be seriously weighed in the differential diagnosis of benign and malignant ulcers.^{2,21}

Cytological false-positive is so infrequent that a positive report, particularly if repeated, is a valid indication for laparotomy.²² The abnormal cell associated with healing gastric ulcer,¹⁶ chronic gastritis, gastric atrophy, gastric polyposis, and the mucosal changes of pernicious anemia before cyanocobalamin treatment^{14,17} have sometimes been misinterpreted. Malignant cells have been found in the gastric aspirate in cases of carcinoma of the gall-bladder⁷ or pancreas.¹²

Experienced observers are unanimous in recommending the cooperative use of all available methods in the diagnosis of gastric carcinoma. McHardy¹⁵ expressed belief that earlier diagnosis may be achieved through an awareness of the importance of vague symptoms, achlorhydria remaining after administration of histamine, and the early use of cytological study. He cited a diagnostic accuracy of 95 per cent for competent cytodiagnosis, 95 per cent for radiological surveys in selected hospitals, 88 per cent for ambulatory x-ray screening, and 77 per cent for gastroscopy, performed with skill. It seems

reasonable to assume that less than 5 per cent of early, operable gastric carcinoma should escape detection if all of the available methods, including cytology, are used skillfully and repeatedly.

USES OF GASTRIC CYTOLOGICAL STUDY

As the study of gastric cells is most applicable to detection of early and superficial gastric carcinoma, it was inevitable that it should be applied to screening processes.¹⁵ In this respect special attention has been paid to certain groups found to have a higher than ordinary incidence of gastric cancer—for example, persons having Type A blood,^{1,10} pernicious anemia,^{9,11} a family history of gastric cancer,⁵ or achlorhydria persisting after the administration of histamine.^{3,12} The high incidence of gastric cancer among the Japanese qualifies them for special attention.

The method may also be used to identify post-operative recurrence of carcinoma in the stomach,²⁴ or to confirm the gastric origin of a neoplasm which is evident only by metastatic lesions.¹³

Ideally, cytological examination will take its place as an element in the construction of a "stomach profile" which will combine information from clinical, radiological, and gastroscopic sources with the analysis of acid production after histamine, and eventually with data on the uptake of radioactive phosphorus by the gastric mucosa²³ and the biochemical and metabolic concomitants of mucosal disease which are now coming under investigation.

PRELIMINARY REPORT ON PRESENT SERIES

Methods

An Ewald tube, lubricated with glycerin or water-soluble jelly, was introduced into the stomach after an overnight fast. No premedication was given unless gastroscopy was to be performed. Two hundred cc. of normal saline solution at room temperature was introduced with moderate force and the patient was immediately rolled prone and on each side, ending in the left lateral decubitus position with the

TABLE 2.—Gastric Carcinoma (Findings in 11 Cases)

Case	Age	Sex	Character of Lesion	Histological Proof	Gastric Acid	Gastric Retention	X-ray	Diagnostic Method	
								Gastroscopy	Cytologic Study
								By WDJ	By AJL
1	90	F	Adenocarcinoma, antrum. No metastasis.	Yes	None	None	M	Not done	Def. Pos.
2	56	F	At operation 2 months after cytologic study: Adenocarcinoma, lesser curvature with huge ulcer.	Yes	N	None	U	Not done	Neg. Neg.
							Improved on medication Rx		
3	43	M	Adenocarcinoma, fundus. Metastasis. Congenital gastric cysts.	Yes	L	None	B	B (polypoid)	Pos. Neg.
4	81	F	Adenocarcinoma, antrum. Metastasis.	Yes	L	None	M	Not done	Pos. Pos.
5	82	M	Adenocarcinoma, antrum. Metastasis.	Yes	H	Yes	M	Not done	Def. Neg.
6	82	F	Adenocarcinoma, antrum. Metastasis.	Yes	L	Yes	M	Not done	Def. Neg.
7	74	F	Adenocarcinoma, posterior wall. Metastasis.	Yes	L	Yes	U	Not done	Neg. Neg.
8	49	F	At operation 1 month after cytologic study: Impression, primary carcinoma cardia with metastasis. Biopsy—liver fibrosis.	No	N	None	B	B Gastritis with ulcer	Neg. Neg.
			Died 6 months						
9	75	F	No operation. Carcinoma, fundus, with small ulceration.	No	None	None	M	Unsatisfactory (obstruction)	Pos. Neg.
10	73	F	No operation. Carcinoma, fundus.	No	None	None	M	Not done	Pos. Neg.
			Died 1 month						
11	83	F	At operation 6 months after cytologic study: Anaplastic carcinoma (limits plastica). Metastasis.	Yes	None	None	B	Uncertain (lymphosarcoma not completely excluded)	Neg. Neg.

Per cent of carcinoma diagnosed by x-ray, 55; per cent diagnosed by cytologic study, 45; per cent diagnosed by combined x-ray and cytologic study, 73.

N=Normal. L=Low. H=High. U=Uncertain—Specimen adequate but pathologist unable to decide. Def.=Deferred—Specimen inadequate to permit forming an opinion.

* Repeat cytology six months later, when malignant disease was obvious by gastroscopy and x-ray, was also negative.

head low. The wash material was drained from the stomach by gravity and manipulation of the tube, which was then withdrawn.

The lavage fluid was quickly poured into 50 cc. plastic centrifuge tubes and spun at 5,000 rpm. for 3 minutes in a Serval-type SP angle centrifuge brought to the patient's bedside. Cell buttons were smeared on 4 to 8 uncoated glass slides which were immediately immersed in ether and alcohol solution. Seven to ten minutes elapsed between the introduction of the saline solution into the stomach and fixation of the slide. In some cases, the sediment was suspended in Bouin's solution, and later embedded in paraffin block for examination.

Selection of Patients

Almost all the patients in this series had gastrointestinal symptoms. Four patients with proven pernicious anemia were referred for periodic screening studies. The lavages were done at a number of places between April 1958 and February 1961. One of us (WDJ) examined all slides and all of the cell blocks in the cases in which they were prepared. Slides prepared from patients at the San Mateo Community Hospital were divided at random into two sets, each of which was examined independently by a pathologist (WDJ or AJL).

Preliminary Results

One hundred and fifty-five gastric lavages were performed on 150 patients. The average duration of follow-up by February 1961 was six and a half months, with a range from 0 to 34 months. Gastroscopy was performed in 78 cases. All but three patients had upper gastrointestinal x-ray examination at approximately the time of cytological study; these examinations were performed by a number of radiologists and the radiological opinion recorded is that which was expressed at the time of the cytological study, even if after subsequent films the opinion was changed.

In the series of 44 cases in which two sets of slides were made from the same material, there were five cases of proven gastric carcinoma. Both pathologists identified one of these; in a second, one examiner found malignant cells in his material, while the other was unable to find such cells in his set of slides either at the first examination or upon review. No malignant cells were found by either observer in slides from three patients, two of whom had pronounced gastric retention, the other having a large area of ulceration superimposed upon the carcinoma.

In the series of 150 patients, 139 were considered to have either benign gastric lesions or none at all. Histological evidence of benignity was obtained in 29 cases (Table 1).

Eleven of the patients were classified as having gastric carcinoma (Table 2). Histological proof was present in eight, and laparotomy in another revealed what was thought to be extensive metastatic carcinoma originating in the stomach, although liver nodule biopsy showed only "fibrous tissue." This patient and two others were presumed to have gastric carcinoma with widespread metastasis, although histological proof was not obtained either before or after death.

Seventy-six patients underwent gastroscopy and roentgenologic and cytological studies. The diagnostic performance of these methods in the cases in which they were used is summarized in Table 3. In the 76 patients studied by all three methods, disagreement was noted between the initial diagnostic opinion and the ultimate diagnosis in 12 cases, which are outlined in Table 4.

Six of the patients had decided gastric retention at the time the specimens were taken. In these cases, only the specimen taken after constant Levine tube drainage was satisfactory, and three of the false-negative results were associated with gastric retention.

In 65 cases Bouin's paraffin block preparations were made of the cell button remaining after the smears had been made. Comparison of results of

smear examination with results of examination of the material in the block emphasized that it is difficult to thoroughly sample cellular material and that smears might fail to show gastric epithelium which was present in the larger specimen.

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TABLE 3.—Overall Diagnostic Performance of X-ray, Gastroscopy and Cytologic Study in 150 Cases

Method	Number of Cases	Percentage			
		Correct	False Positive	False Negative	Uncertain
Cytologic Study..	150	90.7*	0	4.0	5.3*
X-ray	147	62.0	5.4	2.0	30.6
Gastroscopy	78	82.1	3.8	2.6	11.5†

*Opinion was originally deferred in eight cases.

†Examination unsatisfactory or diagnosis uncertain.

TABLE 4.—Gastric Lesions Studied by X-ray, Gastroscopy and Cytologic Study (Follow-up of 12 Cases)

Case No.	Diagnosis			Diagnosis on Follow-up
	X-ray	Gastroscopy	Cytologic Study	
1	M	N	I	No apparent malignancy 8 months (clinical)
2	M	N	I	Normal stomach (surgical biopsy)
3	M	M	I	Benign ulcer (surgical resection)
4	M	M	I	Benign ulcer (surgical resection)
5	B	B	V	Gastric adenocarcinoma (surgical resection 1 week later)
6	U	U	I	Benign ulcer (surgical resection)
7	U	U	Deferred*	Benign ulcer (postmortem)
8	U	U	Deferred	Inflammatory infiltrate of stomach (surgical resection)
9	B	B	I	Apparent gastric carcinoma with metastases (surgical exploration 1 month later)
10	U	U	I	No apparent malignancy 13 months (clinical)
11	U	M	I	No apparent malignancy 10 months (clinical)
12	B	U	I	Anaplastic gastric carcinoma with metastases—linitis plastica (surgical biopsy 6 months later)

M=Malignant. B=Benign. N=Normal

U=Uncertain—Specimen adequate but pathologist unable to decide.

*Specimen inadequate to permit forming an opinion.

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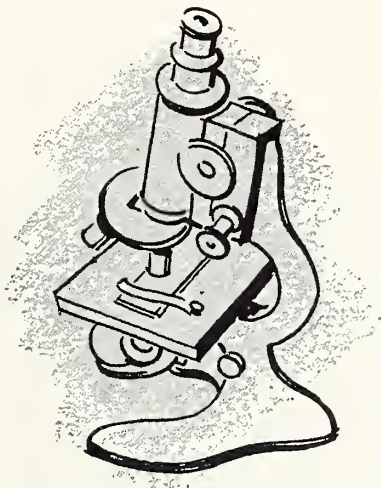
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The Fibrinolytic Enzyme Defect of Hyaline Membrane Disease

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PULMONARY HYALINE MEMBRANE formation is the most frequently observed pathologic process in infants dying neonatally, but is the most poorly understood disease entity affecting this age group. Clinically, this condition is manifested by the development of signs of respiratory distress soon after birth and resulting in death within 4 to 48 hours. At autopsy the lungs are atelectatic and contain distended alveoli and alveolar ducts which are lined by eosinophilic hyaline membranes (Figure 1).

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Presented before the Section on Pediatrics at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

This research was supported by the Los Angeles and Long Beach Heart Associations.

• An investigation of the pulmonary fibrinolytic enzyme system in 31 infants who died with hyaline membrane formation was reviewed. There was complete lack of plasminogen activator activity in the lungs of 84 per cent of these infants. This phenomenon was shown to result from an abnormal inhibitor. A comparable inhibitor was found in normal placental tissue, and it is postulated that this inhibitor is released into the circulating blood as the result of placental infarction. Fibrin, a basic component of the hyaline membrane, is probably precipitated from a physiological capillary transudate associated with the formation of amniotic fluid by the lungs. The presence of an inhibitor of fibrinolysis would then result in the accumulation of intrapulmonary fibrin and the formation of hyaline membranes.

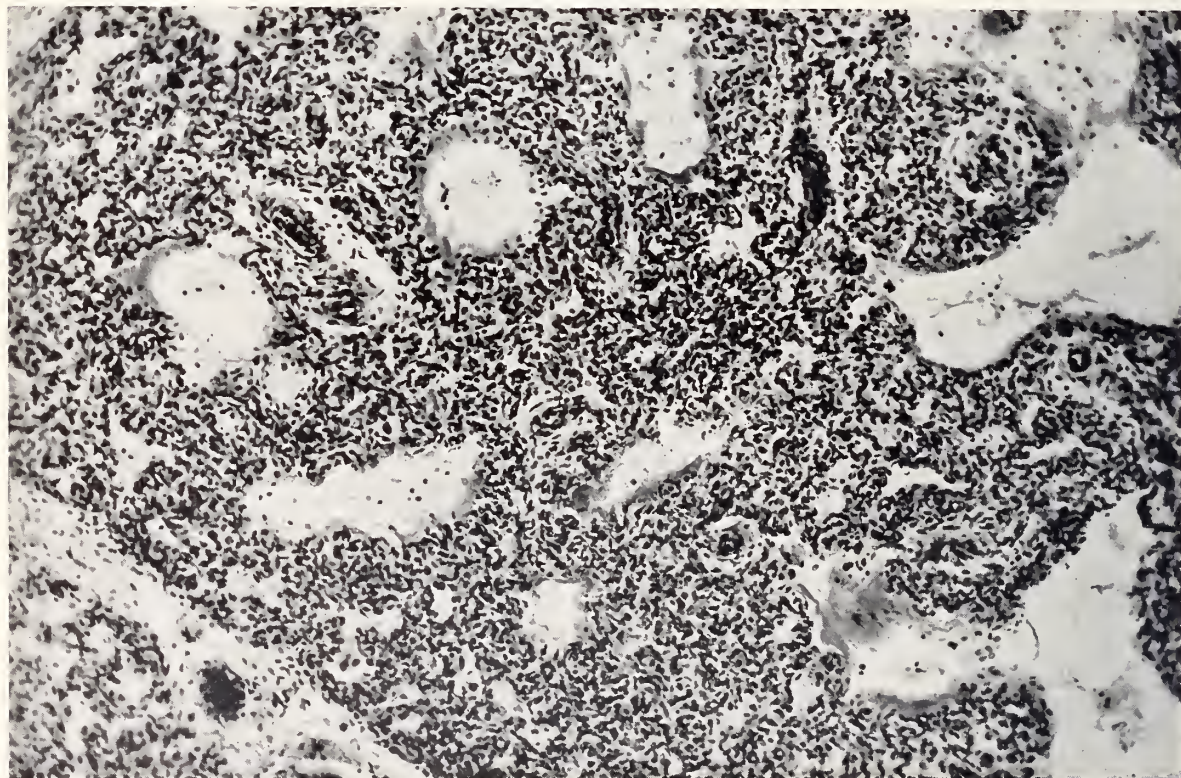


Figure 1.—Photomicrograph of lung ($\times 100$) demonstrating typical appearance of hyaline membrane disease in the newborn. Atelectatic areas are interspersed with dilated alveoli and alveolar ducts lined by an eosinophilic staining hyaline membrane.

Until the fluorescent antibody studies of Gitlin and Craig¹¹ and the studies of van Breeman with the electron microscope,¹⁹ the exact composition of these membranes was unknown, and it was widely believed that the membranes represented protein precipitated from aspirated amniotic fluid. These investigators, however, demonstrated rather conclusively that the membranes were composed primarily of fibrin and resembled a plasma clot. Since amniotic fluid is known not to contain fibrinogen or fibrin, the only potential source of fibrinogen in the lungs would be from a capillary transudate.

The cause of the pulmonary capillary transudate believed to predispose to hyaline membrane formation is receiving much attention. One concept, reviewed by Smith,¹⁷ is that it is a manifestation of left heart failure, with the hyaline membranes resulting as an end stage of pulmonary edema. Avery and Mead⁶ suggested that the lack of a surface-tension lowering substance from the lungs causes pulmonary atelectasis which in turn promotes pulmonary congestion and edema, and so predisposes to hyaline membrane formation. Experimental studies of hyaline membrane formation in animals indicated that pulmonary edema can lead to the development of hyaline membranes, since most of the techniques utilized for the experiments were actually aimed at promoting pulmonary edema.⁹ However, this should not necessarily imply that the majority of human infant deaths due to pulmonary hyaline membranes are the result of heart failure or pulmonary congestion, since clinical and pathologic evidence is lacking in many of these cases.

Concepts regarding the pathogenesis of hyaline membrane disease must explain the close association of the disease with prematurity and maternal diabetes mellitus. Cesarean section is also thought to increase the incidence of hyaline membrane formation, although it appears that the culpable factor is the maternal complication leading to emergency cesarean section.⁷ Other aspects of the disease that are yet to be explained concern the fact that air breathing is a requisite to the appearance of membranes, and the apparent spontaneous regression of the disease in many instances in which it is suspected clinically.

During an investigation of pulmonary fibrinolytic enzymes, the lungs of most infants succumbing to hyaline membrane disease were found to lack plasminogen activator activity completely.¹² Inasmuch as the hyaline membrane was known to consist primarily of fibrin, this observation was considered to be of significance and a study of this enzyme defect was continued. The purpose of the present report is to review these studies of a defect in fibrinolytic enzymes in the lungs of infants with hyaline mem-

brane formation, and to describe a new concept of the pathogenesis of this disease which can account for most of its characteristics.

The Tissue Activator of Plasminogen

The fibrinolytic enzyme system of the human organism is complex and consists of a circulating active enzyme, plasmin or fibrinolysin; its inactive precursor, plasminogen or profibrinolysin; and a number of blood and tissue activators and inhibitors.⁴ The tissue activator of plasminogen appears to have a more localized function than has the widely circulating plasma activator, although it is thought that the activator from tissue can produce circulating fibrinolytic activity. The tissue activator is thought to function in the removal of blood clots or other pathologic fibrin deposits from tissue parenchyma.^{1,18} It is thermostable and relatively insoluble and can thus be differentiated from the activator of plasminogen in blood which is heat-labile and water-soluble. The activator in tissues can be extracted quantitatively by the use of potassium thiocyanate (KSCN).⁵ More recent studies have demonstrated that saline extracts of the tissues also contain activator activity, and it is believed that the activity in the saline extracts may reflect the immediate availability of the plasminogen activator to the organism.²

Plasminogen Activator Activity of Normal Lung

Plasminogen activator activity can be detected in the lungs of fetuses as early as the third month of gestation.¹² Of 148 fetuses that died perinatally without pulmonary hyaline membranes, only 16 lacked demonstrable enzyme activity in their lungs.¹²⁻¹⁴ It is apparent that the enzyme appears quite early during fetal development and is present in the majority of lung specimens. However, the appearance of the plasminogen activator fraction that is soluble in saline may be subject to a developmental delay,¹³ inasmuch as it was absent in the majority of fetuses weighing less than 1,000 grams, but present in 88 per cent of those weighing over 1,500 grams. If the presence of saline-soluble enzyme activity does reflect the immediate availability of plasminogen activator to the organism, then many premature infants may be incapable of handling intrapulmonary fibrin deposits effectively.

Plasminogen Activator Activity of Lungs with Hyaline Membranes

A total of 31 lung specimens from infants who died neonatally with hyaline membrane formation were studied.^{13,14} The infants ranged in weight from 560 to 3,910 grams; 81 per cent were considered to be premature (less than 2,500 grams in weight). The earliest death occurred two hours after birth, and the latest five days after birth.

Plasminogen activator activity was completely lacking in 26 of the 31 specimens. The five infants *with* enzyme activity were not unusual in any way except that four of them weighed less than 1,500 grams and in the fifth hyaline membrane formation occurred in the presence of severe pulmonary edema. Two of these four infants under 1,500 grams were tested for the presence of saline-soluble activator and were found to be lacking such activity.

Nature of enzyme defect. The enzyme defect apparent in 84 per cent of the lungs with hyaline membrane formation could result from either the presence of an inhibitor or the primary absence of the activator itself. Two methods were used for exploring this problem. The presence of an inhibitor was investigated by studying the effect of various fractions of a lung homogenate upon the enzyme activity of a normal lung homogenate.^{13,14} Mixing a homogenate of hyaline membrane lung with normal lung homogenate caused pronounced inhibition of the normal activity in 19 of 23 cases studied. The second method was to extract the lungs with KSCN as described by Astrup and Albrechtsen,⁵ thereby separating any activator from its inhibitor and enabling its activity to become apparent. KSCN extraction of 14 lung specimens with hyaline membranes revealed underlying plasminogen activator activity in every case, thus indicating that the enzyme was present but completely inhibited.¹³ Consequently, it appears that the defect results from the presence of an abnormal inhibitor and not from a lack of activator.

Characteristics of the abnormal inhibitor. Certain basic characteristics of this abnormal inhibitor came to light during this investigation. The inhibitor tended to adhere to the particulate matter containing the insoluble activator and could not be separated from the particulate matter by repeated washings with saline solution, although it could be separated by KSCN extraction.¹³ Various proteolytic enzyme inhibitors are known to lack specificity and to be capable of inhibiting a number of different proteolytic enzymes. In contrast, the abnormal inhibitor observed in lungs with hyaline membrane formation did not inhibit either plasmin or trypsin, hence seems to be relatively specific for the tissue activator of plasminogen.¹³ This specificity suggests that the inhibitor would not interfere with attempts to treat this condition with fibrinolytic enzymes.

Etiology of the enzyme defect. A number of possibilities exist regarding the etiology of this enzyme derangement.

The possibility that inhibition of tissue fibrinolysis represents an immature state in the development of this enzyme system should be considered, but this was not supported by our findings in the control

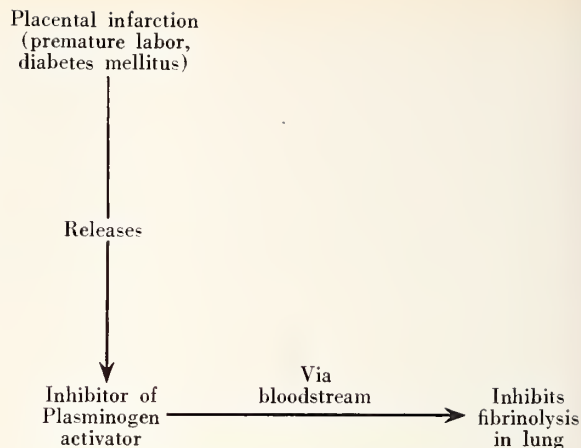


Chart 1.—A postulated etiologic derivation for the enzyme defect in hyaline membrane disease.

study. Although a number of infants without hyaline membranes were found to have a similar enzyme pattern, they were not limited to the youngest gestational group but were distributed among all the fetal weight groups.

The enzyme defect could represent the existence of an abnormal gene. This possibility is supported somewhat by the tendency toward multiplicity of cases from certain mothers, and the lack of correlation between immaturity of the fetus and the enzyme abnormality. However, a genetic factor would not easily explain the association of the disease with prematurity, diabetes mellitus or with maternal bleeding or toxemia.

The third and most probable possibility is that the fibrinolytic enzyme defect associated with hyaline membrane disease is acquired through some pathologic mechanism related to the complications of pregnancy just listed. Observations in mice indicated that an inhibitor to the pulmonary plasminogen activator can be detected in blood and in the lungs following local x-irradiation of a leg. This inhibitor was thought to have been released from the red marrow of the mouse bones. Perhaps, then, the inhibitor detected in human lungs with hyaline membranes may also arise from injured tissue other than the lungs; the placenta immediately comes to mind (Chart 1). Infarction of the placenta is a common observation in diabetic mothers, and is thought to be related to premature delivery as well as maternal bleeding and toxemia in many instances. Studies of the fibrinolytic properties of the placenta have shown it to be fibrinolytically inactive and to contain fibrinolytic inhibitors.³ Our studies with placental tissue revealed the presence of an inhibitor to the pulmonary plasminogen activator that had characteristics similar to those of the inhibitor found in lungs with hyaline membrane disease.¹³ The presence of this inhibitor

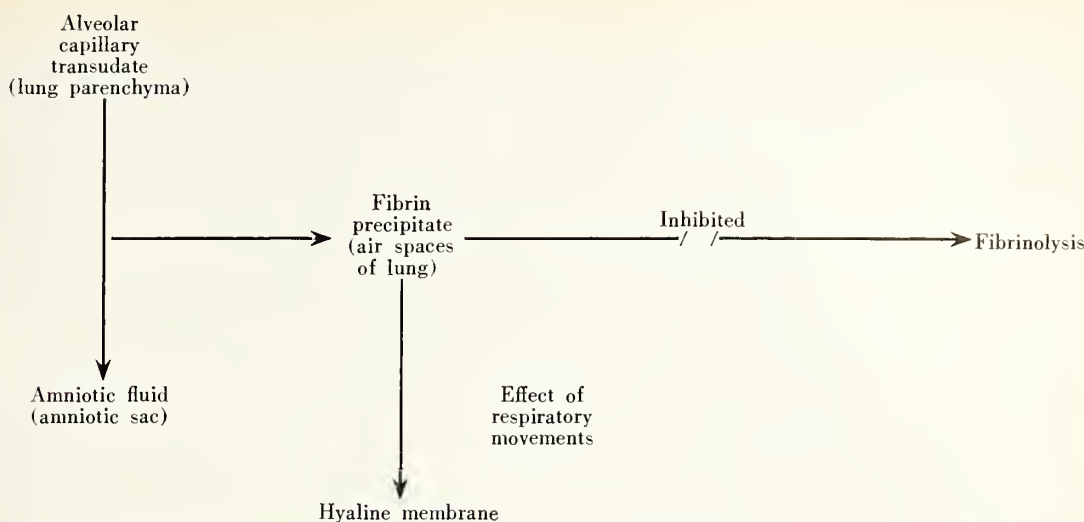


Chart 2.—A postulated source of intrapulmonary fibrin in hyaline membrane disease.

in placental tissue strongly supports the possibility that this organ may be the source of the inhibitor detected in the lungs of infants with hyaline membranes. The inhibitor would be released from the site of a placental infarction in a manner similar to the release of transaminase from a myocardial infarction. It would pass into the circulating blood and cause inhibition of the plasminogen activator in the lungs. A preliminary study of umbilical cord blood showed that all umbilical cord specimens contain inhibitor of this type, and approximately 10 per cent of these had unusually high titers.

Source of Intrapulmonary Fibrin

At present, one can only speculate regarding the presence of fibrin within the potential air spaces of the lungs. A transudate from the pulmonary capillaries is the only possible source of fibrin in sufficient amounts to enable the formation of hyaline membranes. There is difference of opinion among investigators as to whether or not such a transudate is a manifestation of pulmonary edema. An alternative explanation is that the formation of a transudate is a normal physiologic process contributing to the formation of amniotic fluid by the lungs. Evidence has been accumulating which indicates that the lungs are a source of amniotic fluid.^{15,16,21} If such a continuous pulmonary capillary transudation is the means by which the lungs form amniotic fluid, then a rich source of fibrinogen is readily available (Chart 2). One must postulate that fibrin is precipitated from the capillary transudate during passage of the fluid from the potential air spaces of the lungs towards the amniotic sac, since the amniotic fluid itself does not contain fibrinogen or fibrin. The fibrin would normally be dissolved by the action of fibrinolytic enzymes and subsequently resorbed, but inactivation of the fibrinolytic system

allows the fibrin to accumulate and to form hyaline membranes following the onset of air breathing.

COMMENTS AND CONCLUSIONS

In the present study the majority of newborn infants who died of hyaline membrane disease showed an abnormal inhibition of pulmonary fibrinolytic enzymes. It is possible, however, that this does not apply in all cases. Fibrin deposition from acute pulmonary edema could conceivably result in hyaline membrane formation merely because of the inability of the fibrinolytic enzymes to cope with overwhelming amounts of fibrin. In one such case (Figure 2) massive pulmonary edema was present and typical hyaline membranes had formed. The plasminogen activator activity of the specimen of lung was normal. Another situation predisposing to membrane formation would be that occurring in extremely premature infants where the *soluble* plasminogen activator may be lacking due to a developmental delay. Pulmonary edema and immaturity of an enzyme system could account for 16 per cent of the cases studied in our laboratory. The majority of infants, however, manifested the enzyme abnormality described above.

Knowledge of the fibrinous character of hyaline membranes and of the abnormality in pulmonary fibrinolytic activity should logically lead to a trial of fibrinolytic enzymes for therapy and prophylaxis. Since the inhibitor does not affect plasmin directly, the use of plasmin by aerosol may be appropriate. Craig and coworkers⁸ observed that plasmin can dissolve the hyaline membrane *in vitro*, and this observation was confirmed in our laboratory. Villavicencio and coworkers²⁰ and Ebner and coworkers¹⁰ presented a preliminary report of encouraging results with the use of nebulized plasmin in newborn

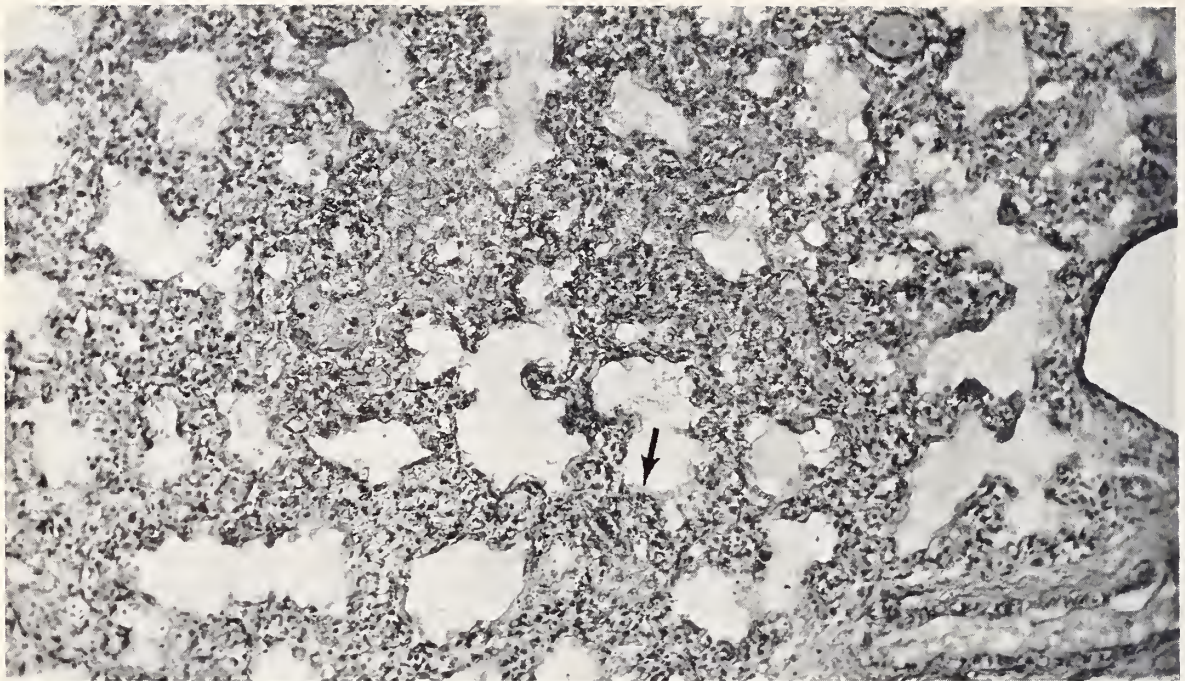


Figure 2.—Photomicrograph (×100) of lung from a newborn infant demonstrating hyaline membrane formation (see arrow) in the presence of severe pulmonary edema.

infants having respiratory distress. Further large scale, well-controlled studies of this aspect are in progress in a number of institutions and should lead to significant data.

The suggested role of the placenta in hyaline membrane disease necessitates further correlative study involving the relationship of placental infarction to the level of plasminogen activator inhibitor in the lungs and blood. If substantiated, it may be possible to detect susceptible infants by appropriate tests of umbilical-cord blood.

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Suprapubic Vesicovaginal Fistulectomy

A Refinement in Surgical Technique

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MANY INVESTIGATORS have offered ways to afford better surgical exposure and access for repair of vesicovaginal fistulas. Among them is to attach lead shot to the inferior end of a heavy thread which has been passed through the fistula and into the vagina.¹ Traction on the thread lifts the floor of the bladder for better access. Another is to fasten a rubber ball on the vaginal end of a suture.³ Still another suggestion for better exposure is the transvesical introduction of a Lowsley perineal retractor that is passed through the fistula into the vagina, where a firm rubber hand ball is pressed over the lower end of the instrument and held there by spreading the blades.³ All of these methods offer definite advantages in transvesical fistulectomy, but none is without some shortcoming.

In 1948 Belt² described passing a Foley catheter transvaginally through a fistula, inflating the retention bag, and then applying traction. However, extreme care is necessary in dissecting about the retention balloon, lest it be inadvertently ruptured. Moreover the balloon is neither firm enough nor flat enough to provide a good surface against which to work.

To overcome these difficulties, we used the following procedure: First carrying out suprapubic cystotomy, we passed a No. 18 (French) Foley catheter through the fistula, and an assistant drew the end of the catheter from the vagina. Then the assistant, using sterile technique as far as possible, slipped a well-lubricated common metal washer two inches in diameter (Figure 1) over the catheter. With the bag of the catheter inflated distal to the washer, application of traction suprapubically elevated the floor of the bladder easily, and the washer made a firm dissecting board beneath the fistula. Using a bistoury blade, we elliptically excised the fistula in all its layers and removed it by sliding it up the catheter. Then by alternately applying and releasing traction, with no fear of rupturing the balloon of the catheter, we readily undermined the surrounding tissues and created the layers necessary for closure.

From the Urological Service of Cedars of Lebanon Hospital.
Submitted May 9, 1961.

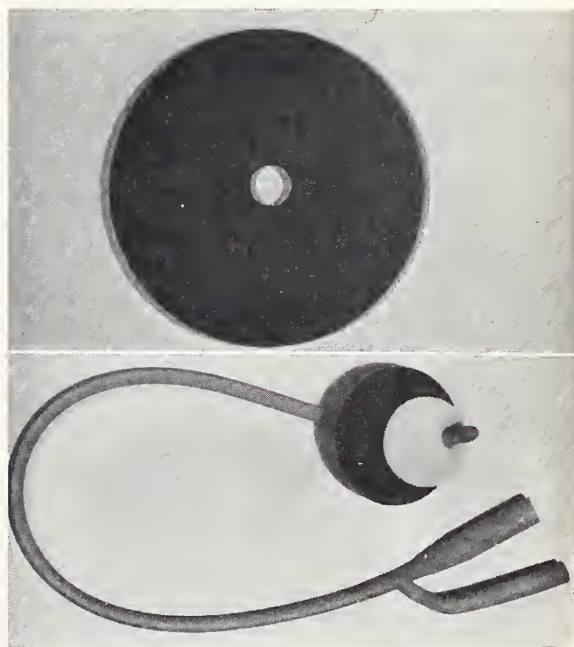


Figure 1.—Above: Two-inch metal washer used to slip over tip of Foley catheter. Below: Balloon of catheter inflated to hold washer in place when traction is applied to lift floor of bladder for better surgical access in repair of fistula.

After the first layer of absorbable sutures was placed, and before they were secured, the bag of the catheter was deflated, the washer was allowed to drop into the vagina, and the catheter was removed suprapubically. The sutures were then tied and the two end ones were used as traction sutures to afford easier placement of the next layer. The remainder of the repair was done in the conventional manner.

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Alcoholism

Medical Team Approach to Treatment

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THIS PAPER is based upon four years of clinical experience as senior physician at the Los Angeles Alcoholic Rehabilitation Clinic operating in the Los Angeles City Health Department. This clinic is one of six established by the State Department of Public Health and operated by local governments under reimbursement contracts. The personnel of the clinic consists of the following:

A full-time clinic director, who is an internist, five part-time internists, a part-time psychiatrist, a part-time clinical psychologist, a public health nurse and a registered nurse, three full-time medical social workers, a full-time public health educator and three clerical workers.

The philosophy of the clinic is based upon the premise that alcoholism is a chronic disabling disease, of unknown cause, characterized by physiological, and/or psychological, and/or socioeconomic disturbances in an individual that impair his ability to function in a normal acceptable manner in his environment. As with other diseases of unknown cause, the aim of therapy at present is to maintain the individual as close to a normal physiological and functioning state as possible. The clinic staff also accepts that a patient under treatment may relapse and that this in itself is not a reason to discontinue treatment or to chastise the patient for poor motivation or for poor cooperation. As with patients who have such diseases as diabetes, arthritis and colitis, the aim of therapy is to decrease the periods of exacerbation of illness both in frequency and in duration and to increase the periods of normal functioning as much as possible.

At present the clinic offers treatment on an outpatient basis only to residents of Los Angeles County five days a week by appointment. Upon application to the clinic, the patient is given an appointment on one of the admitting days. At that time he is seen by:

1. The public health nurse, who evaluates his nutritional status and his environment.
2. A physician, who determines first whether or

• Various approaches to the treatment of alcoholism have been evaluated by the Los Angeles Rehabilitation Clinic since it began operating more than four years ago. A team approach similar to that used in the outpatient treatment of other chronic disabling diseases has been formulated. With the permission of the California State Department of Public Health (Division of Alcoholic Rehabilitation) preliminary figures of the follow-up study conducted by this department are presented and would tend to support the conclusion that alcoholism can be successfully treated on an outpatient basis.

not emergency treatment is needed, and then on the basis of a short history form arrives at an impression as to whether or not the patient has a drinking problem and whether or not any physiological disturbances are apparent.

3. A social worker, who does a brief screening interview to determine the patient's status with regard to his socioeconomic functioning.

The patient then is seen by the clinic director, who reviews the recommendations of the physician, the social worker and the public health nurse and arrives at a decision as to whether or not to accept the patient for therapy. If the patient is accepted, arrangements are made for subsequent appointments.

For purposes of standardization, three states of alcoholism are accepted:

1. *Acute alcoholism* (under the influence of excessive alcoholic intake).
2. *Chronic alcoholism, active* (patient has been drinking in a pattern essentially unchanged in the period immediately before the time of making the diagnosis).
3. *Chronic alcoholism, in remission* (patient has had an established pattern of drinking which at the present time appears to have been interrupted, with the patient abstinent for longer time than any known previous period of abstinence).

For purposes of record keeping and evaluation of therapy, an alcoholic is defined as a person who because of the ingestion of alcohol has difficulty in functioning in a normal and acceptable manner in his society. There are several classifications:

Presented before the Section on Public Health at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

1. *The classic alcoholic.* This refers to a person who from the very first drink or exposure to alcoholic beverages responds in an abnormal manner both as to his tolerance and his ability to control his drinking. These persons are truly said to suffer from an "addiction of the body" and a "compulsion of the mind." They make up less than 10 per cent of all alcoholics.

2. *The reactive alcoholic.* This refers to persons who turn to the use of alcohol for its sedative or tranquilizing effect as a means of escape from a problem or situation whether imagined or real, and who, having turned to alcohol, may lose control of their drinking and become unable to maintain sobriety or complete abstinence. Some 70 to 75 per cent of alcoholics are of this order.

3. *The symptomatic alcoholic.* This is a person whose drinking is a sign or symptom of an underlying mental or physical defect or illness. Thus primarily the problem here is not alcohol, for the excessive ingestion of it is no different than the excesses indulged in in other fields by persons with underlying or primary mental or physical defects. Symptomatic alcoholics constitute approximately 10 per cent of all alcoholics.

4. *The purposeful alcoholic.* This term refers to the person who drinks at a specific time for an obvious purpose or effect and, upon obtaining it, then may totally abstain without difficulty. Approximately 5 or 10 per cent of alcoholics fit this description.

After summarization of the impressions of the various members of the staff at the time of admission, the patient is then assigned to one of the major subgroupings in the clinic for treatment. These may be listed as follows:

Medical supportive. The program here is similar to any medical clinic program for a chronic debilitating disease, employing medication and clinic visits with an internist and utilizing modified medical group therapy, and consultations with the psychiatrists, the social workers and the nurses as needed.

A brief description of the drugs used in the treatment program is as follows:

Disulfiram (Antabuse®), 0.5 gm. tablets, scored. Antabuse is used in a daily dosage of one-half to one tablet, usually taken immediately upon arising. It should never be given to a patient without fully informing him of the possible reaction to alcohol and that he should wait 48 to 72 hours after his last dose before attempting to take a drink. The reaction to alcohol may be aborted or prevented by the use of antihistamines either orally or intravenously. *Diphenhydramine (Benadryl®)* is our choice in doses of 30 to 50 mg., intravenously, for the acute

reaction. We have found no contraindications to the use of Antabuse under proper supervision; and the only side reactions encountered were a very slight skin reaction which necessitated discontinuance of the drug, and an occasional mild gastric irritation which was relieved by taking the Antabuse after a meal or with an antacid preparation.

Antidepressants

Phenylethylhydrazine (Nardil®), 15 mg. tablets, used in doses of one tablet three times a day after meals, reduced to one tablet twice a day after desired effects obtained. Side effects are minimal and the most common is epigastric bloating and gas which is avoided by taking the tablets after meals.

Methyphenidate (Ritalin®), 5 mg., 10 mg., and 20 mg. tablets. Ritalin is used as an antidepressant and also as a stimulant. It is available in intravenous form, 10 mg. per cc. when reconstituted. It should not be used in persons prone to convulsions.

Dextroamphetamine sulfate (Dexedrine®), 5 mg. tablets, used most commonly in combination with *amobarbital (Dexamyl® formula)*.

Tranquilizers

Meprobamate (Equanil® or Miltown®), in 200 and 400 mg. tablets. Adequate dosage is 200 or 400 mg. every 4 to 6 hours as needed.

Promazine (Sparine®), in 25 and 50 mg. tablets; also for parenteral use in 2 cc. and 10 cc. ampules, 50 mg. per cc. Primarily used intramuscularly in dosages of 50 to 100 mg. to quiet the agitated alcoholic and repeat 50 mg. every hour until desired effects obtained. Orally in dosages of 25 to 50 mg. every 4 to 6 hours as indicated.

Prozine® (each capsule containing a combination of meprobamate, 200 mg., and Sparine® 25 mg.). This is by far the most satisfying drug used. In the acutely intoxicated patient, two capsules every 4 hours until the patient has calmed down, then one capsule four times a day is usually sufficient. Using the combination, we have had no episodes of convulsions during the withdrawal period from alcohol such as have been reported when Sparine or meprobamate were used separately.

Barbiturates. The use of the barbiturates is to be avoided in the acutely intoxicated patient or the alcoholic, inasmuch as alcoholics usually react adversely to these drugs.

Antihistamines

Promethazine (Phenergan®), 25 mg. and 50 mg. tablets. Used for sleep but unfortunately some patients complain of drowsiness and heavy headedness in the morning.

Diphenhydramine (Benadryl®), 25 mg. and 50 mg. capsules. Fifty to 100 mg. for sleep at night is

tolerated quite well. The drug is used intravenously or intramuscularly during withdrawal from alcohol as adjunct to other medications.

Vitamins and Nutritional Supplements

Vitamins are given routinely, using a multi-formula vitamin and mineral from therapeutic formulas and maintenance formulas. The parenteral use of vitamins is usually restricted to the acute phase of detoxification in a patient who appears to suffer from malnutrition or complaints of combined system involvement. B₁ and B₆ and B₁₂ are the three "neurotropic" vitamins and as such have the biggest role to play in the treatment of alcoholics. The use of B₁ has been over-magnified and it is specific only in cases in which a B₁ deficiency exists due to poor eating habits or excessive alcohol intake. In the presence of a combined system disease, administration of B₁, B₆ and B₁₂ parenterally is mandatory, as with any other combined system neuritis. A routine form of use of B₁, B₆ and B₁₂ would be a B₁ and B₆ mixture of 50 mg. per cc. plus the addition of vitamin B₁₂.

Psychiatric supportive. Here the patient is dealt with primarily by the clinic psychiatrist. This involves either individual therapy or group therapy. Group therapy here is usually more intensive than the medical group therapy referred to previously. Here again frequent consultations are available between the internist, the psychologist, social worker and the public health nurse.

Social supportive. Here the patients, who are predominantly in need of social guidance and help in adjusting to family relations, employment problems, etc., are under the major supervision of the social workers, who utilize the consultation privileges of the internists, psychiatrist, public health nurse and others.

As the patient progresses through his treatment program, staff conferences which are held weekly will periodically review his progress or failure, and modifications in the treatment program are made as needed. Improvement is measured as follows:

1. Improvement in the economic status and productivity of the patient.
2. Improvement in his family and interpersonal relationship.
3. Improvement in his physical and emotional state.
4. Improvement as measured by interruptions or modifications of his previous drinking pattern resulting in shorter periods of drinking and longer periods of total abstinence.

Recently the clinic psychologist has attempted to initiate a program by which each new patient may

be profiled on a system of cards which may be fed into a mechanical type computer system. These cards are an attempt to measure an individual's standing and previous history with relations to his functioning in the various fields that previously were enumerated. At follow-up intervals of approximately three months, six months, nine months and a year, each patient will again be reevaluated, his profile remeasured, and progress thus may be delineated on a scale that is readily accessible to machine type computations and assembling. In April of 1961, preliminary figures of a follow-up study of the patients in the six state alcoholic rehabilitation clinics was made by the California State Department of Public Health. This was concerned with a sample of 552 male and female patients who were admitted or readmitted to the various clinics during the period of February to June, 1959. Interviewing of a selected group of these patients was accomplished primarily in May and June of 1960 and a summary of the findings is as follows:

1. Eighty-three per cent of the respondents said that clinic treatment had been beneficial. Seventeen per cent said they had received no benefits.

2. Seventy-six per cent of the respondents showed overall improvements between the time they were taken by the clinic and the time of interview, as measured by scores achieved in the six problem areas combined with changes in the drinking pattern. Eleven per cent showed no improvement and 13 per cent were considered worse at the time of interview than at the time of admittance.

3. Sixty-six per cent of the respondents with a known drinking pattern at the time they entered, showed improvement at the time of interview. Twenty-six per cent were the same, 8 per cent were worse.

4. Seventy-five per cent of the respondents were at a higher employment or income level at the time of interview than at the time treatment began.

5. Sixty-one per cent of the respondents had improved marital status or relationships at time of interview as compared with the time of admittance.

6. Fifty-eight per cent of the respondents with recent arrests records had fewer arrests in the six months before interview than in the six months before admittance.

7. Fifty-five per cent of the respondents with a health problem at the time of intake had improved health at the time of interview. Fifty-one per cent of the respondents who had recent hospital histories had fewer hospitalizations in the six months before interview than in the six months before admittance.

8. Forty-four per cent of the respondents with problems related to child care and custody at the

time of admittance, showed improvement in this area at the time of interview.

Although these results are not conclusive, they are based upon actual case histories and follow-up studies which attempt to set forth in the treatment of alcoholic patients specific criteria of improvement which may be evaluated so that subsequent measurements can be made at future follow-up studies.

In conclusion it may be stated that the six pilot clinic programs of the State Department of Public Health, and specifically the Alcoholic Rehabilitation Clinic of Los Angeles, have demonstrated over the past four-year period that alcoholism ought to be approached with therapists expecting no more of an alcoholic than they would of a person with diabetes or arthritis or epilepsy. If we permit the alcoholic to have some dignity in his attitude toward his illness, as we do with persons who have the other diseases

mentioned, then we can expect to achieve as much success in treatment. In the past, society has driven alcoholics from the church, from the physician's office and from the family. It has called him morally weak, sinful, and undependable, and it refused him the opportunity of being treated with dignity, of being accepted as a medically ill individual suffering from a complex, chronic, perplexing disease. We forced him in his own defense to try to find his comfort and his recovery in institutions and facilities outside of those existing today for all other individuals afflicted with a chronic disabling illness. It was not the alcoholic who lacked motivation, a term which so conveniently excused the shortcomings of our therapy, but rather society, the medical profession and also our organized religions who lacked the motivation to seek the cause, the treatment, the prevention and eventual eradication of this problem, alcoholism.

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Fasciculation

Electromyographic and Clinical Significance

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ALTHOUGH the terms *fibrillation* and *fasciculation* once were used synonymously, they are properly epithets for different phenomena. Correctly fibrillation is the word for the minute irregular contractions of individual muscle fibers—movements that cannot be seen macroscopically. The cause of fibrillation is denervation, whether from Wallerian degeneration as the result of disease or injury, or physiological as in the fetal preinnervation state. Fasciculation is the transient flickering or vermicular twitching of a muscle which can be seen with the naked eye. These irregular, involuntary twitchings result from the contraction of individual motor units, “firing” asynchronously.

As observed electromyographically, the frequency of this fasciculation discharge varies from one to three per second in some patients to as infrequently as once in 30 minutes in others. The amplitude varies as widely as does that of normal voluntary motor unit activity and is of no diagnostic importance. The sound, though, low-pitched, with a hollow quality, is characteristic. Bastron and Lambert² noted that thus far attempts to distinguish, on the basis of the configuration of the action potentials, between benign fasciculation and that which was associated with degenerative diseases of the lower motor neuron, had not been rewarding. Marinacci¹⁰ also noted that the presence of denervation activity in fasciculating muscles was a requisite to substantiation of a diagnosis of lower motor neuron disease. Indeed, fasciculation is not always recorded from such diseases and it has never been observed except with denervation activity. Abnormal fasciculation is an adjunct and not a primary finding in lower motor neuron diseases.

Marinacci⁹ observed fibrillation and sharp waves in the preinnervation state in premature infants. Fasciculation and polyphasic motor units were not observed. He described cases in which progressive degeneration of the anterior horn with fasciculation and polyphasic units during the first year of life were due to demyelination after birth. Benign fasciculation, known as myokymia has been extensively investigated. Purves-Stewart and Worster-

• Fascicular twitching of muscles may be present as the result of compression of spinal roots or anterior horn cells, injuries of peripheral nerves or plexes or to motor neuron disease. Occasionally fasciculation may be of no clinical significance.

Electromyography may be of great help in determining the extent of involvement and whether other manifestations of nerve damage are present. Final diagnosis, however, depends upon the history, physical examination and clinical evaluation, since fasciculation is present in a wide variety of conditions.

Drought¹⁴ said it is especially common in the orbicularis oculis but occurs also in the larger muscles of the limbs, particularly the deltoid and biceps of the upper extremities and the gluteal and quadriceps of the lower extremities. Sometimes it amounts to a persistent quivering of muscle fibers—a condition popularly called “live flesh.” Denny-Brown and Pennybacker³ observed that excessive loss of sodium chloride might induce involuntary muscular contractions and that myokymia associated with excessive hyperhidrosis was of a similar nature. Eaton and Lambert⁵ said that fasciculations, particularly those composed of repetitive discharges known as myokymia in normal persons, were also observed in patients having tetany, uremia and other metabolic disorders. Bastron and Lambert² noted that the myokymia associated with metabolic disorders did not spread to involve the entire muscle. Denny-Brown and Foley⁴ concluded that two kinds of benign fasciculation occur in voluntary muscles—the most usual being related to the mechanism of common muscular cramps and to abnormality in excitability of the most peripheral branches of the motor nerves; the less common kind being the undulating myokymia of King and Schultze which is attributable to abnormal excitability of the proximal portion of the peripheral nerves, as in tetany. Nielsen and Marvin¹³ reported that after strenuous exercise in persons not physically trained there was diffuse fasciculation in the overstrained muscles. Atrophy does not follow and the condition has no clinical importance. It is essentially a state of exertional myokymia.

Presented before the Section on Physical Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Among the commonest causes of fasciculation are the motor neuron diseases—various forms of progressive spinal muscular atrophy. For distinction between types, Nielsen's¹² classification of the various forms of progressive spinal muscular atrophy is based on the site of the lower motor neuron involvement, inasmuch as knowing the site of the upper motor neuron involvement does not help in differentiating varieties. The varieties are listed from above downward anatomically as follows:

1. Progressive ophthalmoplegia with Babinski sign or spasticity.

2. True bulbar palsy with fasciculation and atrophy of the tongue, atrophy of the lips and laryngeal difficulties.

3. Amyotrophic lateral sclerosis, which is characterized by atrophy of the forearm and intrinsic hand muscles and spasticity of the lower limbs. (On Guam this disease is endemic and is inherited as a Mendelian dominant characteristic. One-fourth of the men on the island die of this disease, according to Kurland and coworkers.⁷)

4. Two generalized forms, characterized by fasciculation and atrophy of the general body musculature and spasticity:

- (a) Werdnig-Hoffman form of infantile progressive muscular atrophy due to degeneration of the anterior cornu begins during the first few months after birth and may affect more than one family member. Lower extremities are attacked first with weakness, flaccidity, fasciculation and wasting, although the atrophy and fasciculation are usually masked by subcutaneous fat. This form is invariably fatal before age six and usually before age two.

- (b) Duchenne-Aran form in adults. This and amyotrophic lateral sclerosis are the commonest of the syndromes of fasciculation with atrophy.

5. Chronic anterior poliomyelitis, which runs a rather benign course of many years and with sparing of the upper motor neuron.

6. Primary spastic paraplegia with lower motor neuron sparing.

7. Charcot-Marie-Tooth disease transmitted via either male or female, approximately 50 per cent of their children being affected. Sensory perception is intact but there may be decreased vibratory sense. Atrophy of the muscles of the legs occurs during childhood with development of talipes equinovarus foot deformities. Fasciculation occurs during progression of the disease and disappears when the usual stage of remission occurs in young adulthood. After a variable dormant period, usually 20 to 30 years, the process may again become active and affect the muscles of the upper extremities as well.

Conditions other than the various forms of progressive spinal muscular atrophies causing confu-

sion and errors in diagnosis because of the similarity of symptoms and findings of fasciculation with or without atrophy are as follows:

1. Diffuse cervical spondylosis. One of the commoner causes of fasciculation and atrophy of the upper extremities and shoulder girdle. Most commonly involved are the seventh and eighth cervical roots.

2. Arachnoiditis, usually following trauma or meningitis.

3. Herniated intervertebral disc. In the cervical spine, lateral protrusions cause root compression with fasciculation and denervation, usually limited to a single myotome. There are no electromyographic abnormalities if the protrusion is central, causing cord compression but no root pressure. This should be recognized so that the clinician will not be misled by a negative electromyographic report. Gross fasciculation is not often seen when the root compression is in the lumbar spine. The electromyograph, being extremely sensitive, detects the infrequent fascicular discharges along with the fibrillation or sharp wave abnormalities.

4. Syringomyelia. The cavity extends into the anterior grey matter of the cord, resulting in fasciculation and atrophy. The sensory changes and slow progression help differentiate it from the motor neuron diseases.

5. Thyrotoxic myopathy characteristically involves the girdle muscles, particularly the shoulder girdle. From McEachern and Ross'¹¹ review of 13 cases we can describe what can be called the composite patient. He is a man past middle life who experiences progressive loss of weight, pronounced weakness, fatigability, muscle wasting and coarse fasciculations involving large sheets of muscles. There is decided tremulousness of the legs, with a tendency to fall, and incoordination of the arms, with a tendency to drop things. Electromyographically there is usually much evidence of denervation accompanying the fasciculation.

The classical symptoms and findings of hyperthyroidism are usually absent. Symptoms and physical abnormalities usually are referable to muscles. Too often diagnosis is made at necropsy or in retrospect.

6. Pancreatic adenoma with hyperinsulinism produces fasciculations and atrophy. Barris¹ reported five cases, one original. If the adenoma was surgically removed the patient recovered. In one case necropsy showed widespread degeneration in the anterior horn cells of the spinal cord.

7. Subacute generalized neuromuscular exhaustion, as reported by Nielsen, results from extreme physical activity, following which the patients become virtually paralyzed as the muscles fasciculate and atrophy. One of the patients reported upon

by Nielsen lost one half of his body weight within three weeks and never regained his former strength or endurance. When the anterior horn cells pass a certain point in exhaustion, they never completely recover and are prone to further insult. Starvation and exhaustion are known to accelerate the clinical course of the progressive spinal muscular atrophies. Patients who have had acute anterior poliomyelitis early in life have a decided predisposition to motor neuron disease in middle or late life.

8. Magnesium deficiency. In 1957 Flink⁶ showed that the muscular twitching, athetoid movements with convulsions and delirium could develop in a state of magnesium deficiency. The normal value for magnesium was given as 2.27 mg. per liter of serum. Levels below 1.58 mg. per liter caused fasciculation and atrophy to appear.

9. Cervical hypertrophic pachymeningitis results in root involvement due to thickened and hypertrophic dura mater. Owing to the decreasing incidence of syphilis and tuberculosis, this entity is becoming rarer.

10. In syphilitic nuclear disease the progress is much slower than in motor neuron degeneration. With appropriate treatment the progress is arrested. Abnormalities may be confined to lower motor neuron, or there may be some of the classical manifestations of tabes dorsalis. Pure luetic muscular atrophy is often hypotonic, the wasted muscles being hypotonic and the deep reflexes abolished.

11. Parasagittal meningioma may simulate early progressive spinal muscular atrophy with spasticity and unilateral fasciculations of the thigh.

12. Where there are spinal cord tumors, intramedullary lesions may destroy the anterior cornu with resulting muscular atrophy and fasciculation. Extramedullary tumors also may cause fasciculation and atrophy by compression of the spinal roots.

13. Cervical hematomyelia is usually traumatic, but may result from vascular disease. The onset is quite sudden. Associated with the fasciculation and atrophy of the upper extremities is spasticity of the lower extremities.

14. Collagen disease is rare. Walton and Adams¹⁵ reported fasciculation of shoulder girdle muscles in a case of polymyositis. Fibrillation, sharp waves and myotonic-like discharges were more frequently encountered. Fasciculation has also been reported in so-called "reflex arthritic muscular atrophy."

15. Acute anterior poliomyelitis, encephalitis, encephalomyelitis and Guillain-Barre syndrome are reported to show transient fasciculation during the acute phase on rare occasion.

16. Plexus or peripheral nerve injuries are particularly likely to cause fasciculation when the nature of the injury is one of contusion or stretch.

Fasciculation itself has little to do with the

severity of nerve damage. In a case of extreme denervation due to trichinosis, reported by Marcus and Miller,⁸ the electromyograph demonstrated profuse, intense sustained fibrillation of denervation, but no fasciculation. It would appear that fasciculation is a manifestation of irritation of the motor unit or its nerve supply and is not necessarily associated with denervation.

The presence of fasciculation is frequently detected for the first time on electromyographic examination. In the majority of cases neither the physician nor the patient is aware of its presence. This may be due to the nature of the overlying soft tissues, especially fat. Not often are all the surfaces of the body watched long enough to detect any possible fleeting fasciculation. Also the fasciculation may be in the deeper muscles or the deeper portions of the superficial muscles. Since percussion and cooling enhance fasciculation, these measures may be taken to help in electromyographic detection when the electrical discharges are irregular and at long intervals.

Frequently when the electromyograph needle electrode is inserted, a twitching of the needle will be observed but without sound on the loudspeaker or deflection on the cathode ray oscilloscope. This occurs because the electromyograph is recording only from the very tip of the needle electrode. The wiggle of the needle is caused by fasciculation movement somewhere along its shaft. I consider this as important as noting the sound of fasciculation on the loudspeaker of the electromyograph.

Of 1,000 consecutive patients who were referred for electromyographic examination, there were 101 in whom fasciculation discharges were present. The presence of fasciculation was unsuspected in approximately 65 per cent of the patients in whom it was found. The causes of fasciculation in the 101 cases were as follows:

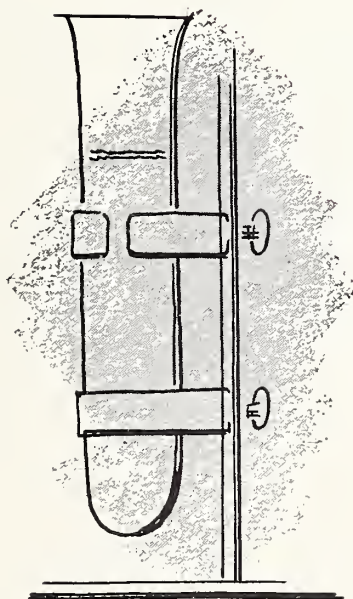
	No. of Cases
Motor neuron disease.....	26
Lumbar root compression.....	23
Cervical root or cord compression.....	22
Brachial plexus injury.....	5
Peripheral nerve injury.....	5
Cervical arachnoiditis	2
Syringomyelia	2
Thyrotoxic myopathy	2
Collagen disease	2
Peroneal nerve tumor.....	1
Vascular malformation of cord.....	1
Sprain of neck.....	2
Unknown	8

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Electron Beam Therapy of Mycosis Fungoides

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EUGENE M. FARBER, M.D., and HENRY S. KAPLAN, M.D., Palo Alto

MYCOSIS FUNGOIDES was first described by the French physician, Alibert, in 1806. Its exact nature has provoked much controversy. The disease occurs in three stages: the erythematous, the plaque and the tumor stage. Each of the first two stages may persist for a period of months to years before progressing into the succeeding stage. The erythematous and plaque stages may simulate psoriasis or neurodermatitis. Although the first two stages may be morphologically nonspecific, the microscopic features are usually at least suggestive of mycosis fungoides. The pathologic change is confined principally to the dermis, where a band-like infiltrate composed of polymorphonuclear cells, eosinophils, plasma cells and mononucleated cells hugs and may partly obliterate the dermal-epidermal junction. Tiny abscesses composed of accumulations of lymphocytes and histiocytes may be seen within the epidermis. The infiltrate in the dermis includes a small proportion of atypical histiocytes manifesting variable size, shape and staining affinity. The presence of a large number of immature histiocytes in the infiltrate is indicative of an impending transformation into a lymphosarcoma, reticulum cell sarcoma or Hodgkin's granuloma. In the tumor stage, the lesions tend to develop ulceration and secondary infection, and the patient has severe generalized debility. In the tumors, the typical histological features of mycosis fungoides are usually modified by the presence of many atypical histiocytes, suggesting progression into a frank lymphoma. Death may ensue from intercurrent infection such as pneumonia or from involvement of the internal organs, which occurs in approximately 20 per cent of cases, usually late in the course of the disease. The average duration of life with mycosis fungoides is 7.1 years from the onset of symptoms, but only 3.7 years from the date the diagnosis is established.¹

Treatment has never been fully satisfactory. Agents used in the past have included para-aminobenzoic acid, tartar emetic, nitrogen mustard, adrenocorticotrophic hormone, steroids and roentgen rays; these may be useful for periods of several

• Ionizing radiation in the form of x-ray therapy is the best modality of treatment available at the present time for single, isolated lesions of mycosis fungoides. However, for generalized mycosis fungoides, generalized x-ray therapy is technically difficult and dangerous. It is now possible to employ electron beam therapy for generalized mycosis fungoides, using energies which confine the dose to the superficial layers of the skin and thus avoid hematopoietic injury. A technique for wide field electron beam therapy has been developed for this purpose which has been effective and well tolerated in limited trials to date.

months, occasionally for years, but ultimately lose their efficacy. The most effective treatment for mycosis fungoides has been roentgen therapy. Treated lesions usually resolve within two to four weeks. However, with widespread involvement of the skin in which multiple portals and repeated courses are employed, x-ray treatment becomes technically difficult and dangerous. When adequate doses of generalized x-irradiation are administered, injury to the hematopoietic system may become manifest.

A method of treatment was needed which would cover the entire body surface with ionizing radiation: the method had to be easy to administer, non-injurious to the deeper tissues of the body and therapeutically effective. This problem was met by using wide field electron therapy. With superficial x-rays possessing a half-value layer of 1 mm. aluminum (100 kv., treated area of 400 sq. cm.), the dosage at 1 cm. depth is about 70 per cent of surface dose, whereas with electrons of 2 million electron volts the dose at 1 cm. depth is less than 10 per cent of the surface dose (Chart 1). Furthermore, the dose from the electrons at 1 cm. depth diminishes rapidly with deeper penetration, whereas the dose from superficial x-rays at these levels diminishes considerably more gradually. Thus, most of the ionization in electron therapy of mycosis fungoides occurs in the superficial layers of the skin.

The pioneer work in electron therapy in this country was undertaken by Trump, Fromer and their associates in Boston.^{3, 4, 6, 7} An opportunity to utilize this new form of therapy occurred at Stanford University Hospital with the installation of a medical linear accelerator developed by Professor Edward L. Ginzton and his associates in the Micro-

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Presented at the 89th Annual Session of the California Medical Association, February 21 to 24, 1960, Los Angeles, California.

Submitted June 3, 1961.

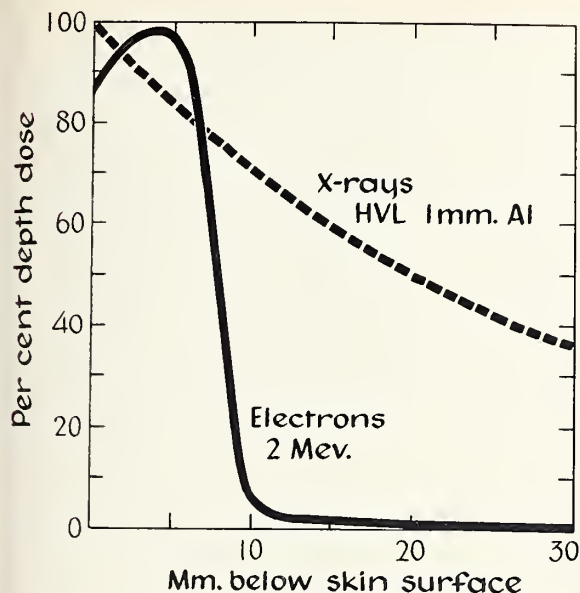


Chart 1.—Relative depth dose of electrons and x-rays. Note that at the depth of 10 mm. the ionization occurring from the electron beam is approximately 10 per cent of the surface dose; whereas at this same depth, the ionization occurring from the x-ray beam is approximately 70 per cent of the surface dose.

wave Laboratory at Stanford University.² This accelerator was adapted and calibrated for electron beam therapy by Karzmark and associates.⁵ The electrons are generated by a heated filament, injected into an accelerator pipe and accelerated to an energy of 6 Mev by a microwave beam (Figure 1). The electrons emerge through a titanium window and may be converted into supervoltage x-rays by interaction with a gold target. For electron beam therapy, however, the gold target is retracted and the electrons are permitted to enter the room. A thin aluminum plate and monitoring device intercept the beam as it emerges from the linear accelerator. The aluminum plate plus the air traversed by the beam reduce the energy and scatter the electrons, resulting in the desired homogeneous field of electrons at the treatment plane.

The patient is placed ten feet from the titanium window. The body surface facing the accelerator receives the treatment (Figures 2 and 3). The requirements for an individual course of treatment demand the homogeneous irradiation of nearly the entire skin surface. Inasmuch as the penetration of the electron beam is limited to less than 1 cm., the portions of the skin which are "seen" by the electrons are those directly exposed. For descriptive purposes, the electron beam might be considered to expose the same skin surfaces as a light beam emanating from the linear accelerator. Thus every effort is made to prevent one portion of the body from shielding another portion. Hence the chin must be

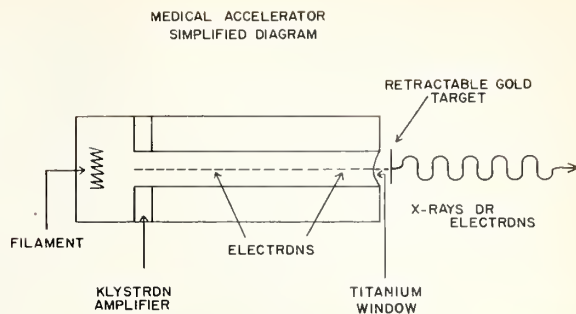


Figure 1.—Simplified diagram of Stanford medical linear accelerator. See text for explanation.

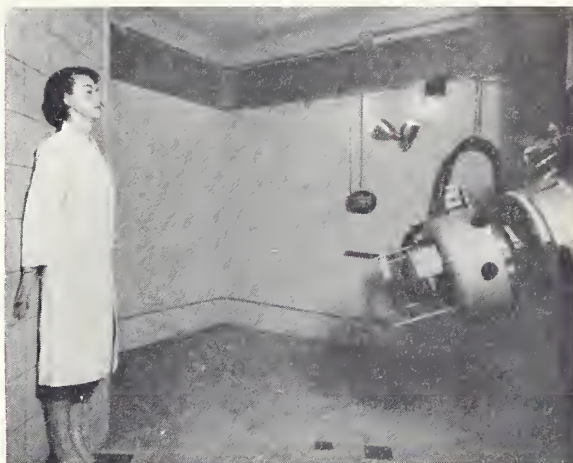


Figure 2.—Stanford medical linear accelerator. This view demonstrates the accelerator directed downward at the patient (in this case a technician). She is standing with her back against a plywood panel which represents the treatment plane ten feet from the accelerator.

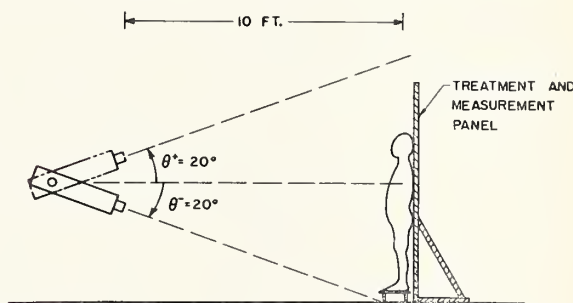


Figure 3.—Schematic diagram of treatment technique. See text for explanation.

raised to prevent shielding the submental regions. The arms must be elevated to expose the axillae, and the legs must be spread to expose the inner aspects of the thighs and gluteal folds. In moderate cases, only the anterior and posterior surfaces are exposed. When the involvement is severe and confluent, the lateral surfaces of the body are also exposed. For each surface the accelerator is first directed at an angle of 20° above the horizontal and half of the

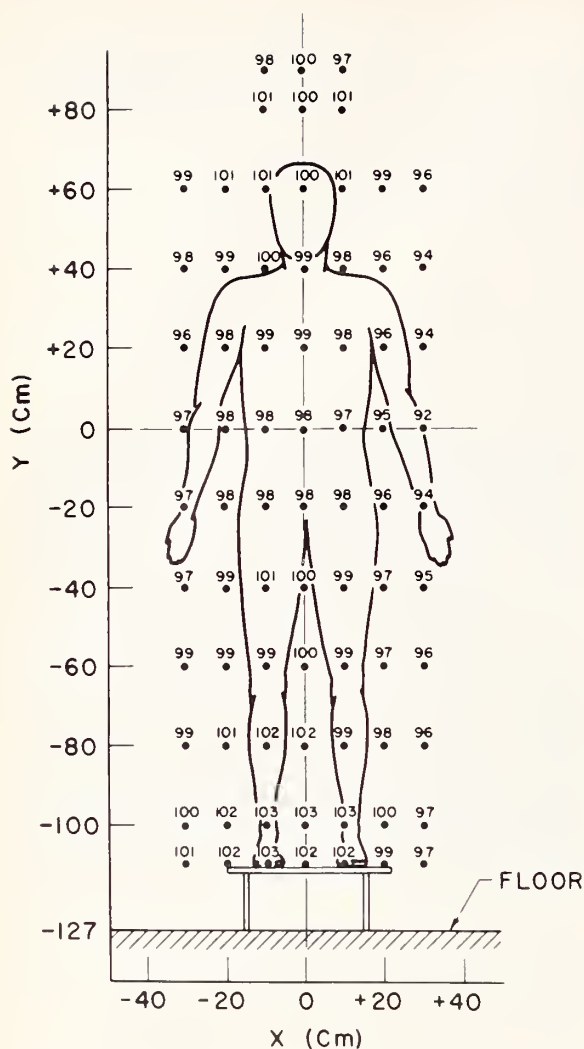


Chart 2.—Dosimetric chart demonstrating the uniformity of measured dose over the treatment plane.

dose is administered. The accelerator is then directed at an angle of 20° below the horizontal and the other half is given. The total dose to any one surface is the sum of both exposures. This technique delivers a remarkably homogeneous pattern of irradiation over the entire body surface (Chart 2).

In the usual therapeutic course, the anterior and posterior surfaces of the body are treated with 200 rads* every other day for a total of four treatments. No area receives more than 200 rads during a single day. If the lateral aspects of the body are to be treated, the treatment period is prolonged accordingly.

Patients best suited for treatment with the electron beam are those with multiple disseminated

*The rad is the unit of absorbed dose and is defined as 100 ergs per gram. Only x-rays and gamma rays are measurable in roentgens (r). In flesh one r gives an absorbed dose of about 93 ergs per gram, i.e., practically one rad.

plaques or with extensive areas of erythema and induration. An example of a case suitable for treatment with the beam is shown in Figure 4. Figure 5 shows the lesions two months after therapy. A close-up view of the right anterior chest before and after therapy is shown in Figure 6.

The following case reports are of a consecutive series of the first six patients treated by electron beam therapy for mycosis fungoides.

REPORTS OF CASES

CASE 1. A 52-year-old white man noted plaques on the trunk and extremities in 1952. Biopsy at that time revealed mycosis fungoides. Treatment consisted of superficial x-ray to isolated plaques with excellent initial results, but with gradual development of tolerance to this mode of therapy. Tartar emetic injections and steroids were used with equivocal results. In April 1958, the patient had multiple plaques on the trunk, face and extremities which resisted drug therapy. Electron beam therapy was administered in the manner described, with regression and fading of the lesions within 30 days. The pruritus was likewise alleviated. Several plaques in the axilla and groin which could not be adequately exposed to the beam continued to be a source of distress to the patient. He was notably free of pruritus and lesions for approximately eleven months, after which new lesions appeared on the trunk and extremities.

In April 1959, a second course of electron beam therapy was administered. The plaque lesions faded following the second treatment. However, the disease progressed rapidly to the point where the entire skin was erythematous, glossy and thin, with multiple areas of denudation and exudation.

Because of the progression of symptoms a third course of electron beam therapy was administered in July, 1959. The response was poor and the patient died in October 1959, of pneumonia and generalized debilitation. Postmortem examination revealed mycosis fungoides of the skin with no involvement of the internal organs.

CASE 2. A 60-year-old white woman had erythematous areas on the trunk and extremities that had developed in 1953. In 1956 a skin biopsy revealed mycosis fungoides. Treatment with x-rays and grenz rays was initially effective, but over several years the disease became less responsive.

In January 1959 the patient had widespread areas of erythema and induration on the trunk and extremities. In February 1959 electron therapy was administered in the usual manner. Improvement was limited to a moderate decrease in the pruritus and induration. In March 1959 the patient died of endocarditis. Autopsy was not done.



Figure 4.—Mycosis fungoides presenting multiple disseminated plaques. The multiplicity and dissemination, together with the superficial character of the lesions, make the wide electron beam especially attractive for the application of ionizing radiation. Photograph taken immediately before course of electron beam therapy.



Figure 5.—The patient received 800 rads to each of four body surfaces within an elapsed time of 12 days. Two body surfaces were treated with 200 rads each day. The photographs were made two months after treatment.

CASE 3. A 45-year-old white man first noted plaques on the trunk in 1945. They were evanescent and until 1956 were controllable with topical use of drugs and x-rays. During 1956 and 1957 numerous areas were treated by the local application of either stockinette or elastoplast impregnated with a solu-

tion containing P^{32} . While local response to the beta rays emanating from the P^{32} was good, the disseminated character of the disease gradually made this form of therapy impractical. The patient was treated with the electron beam at the Lahey Clinic in January 1957 and the lesions promptly disappeared. In

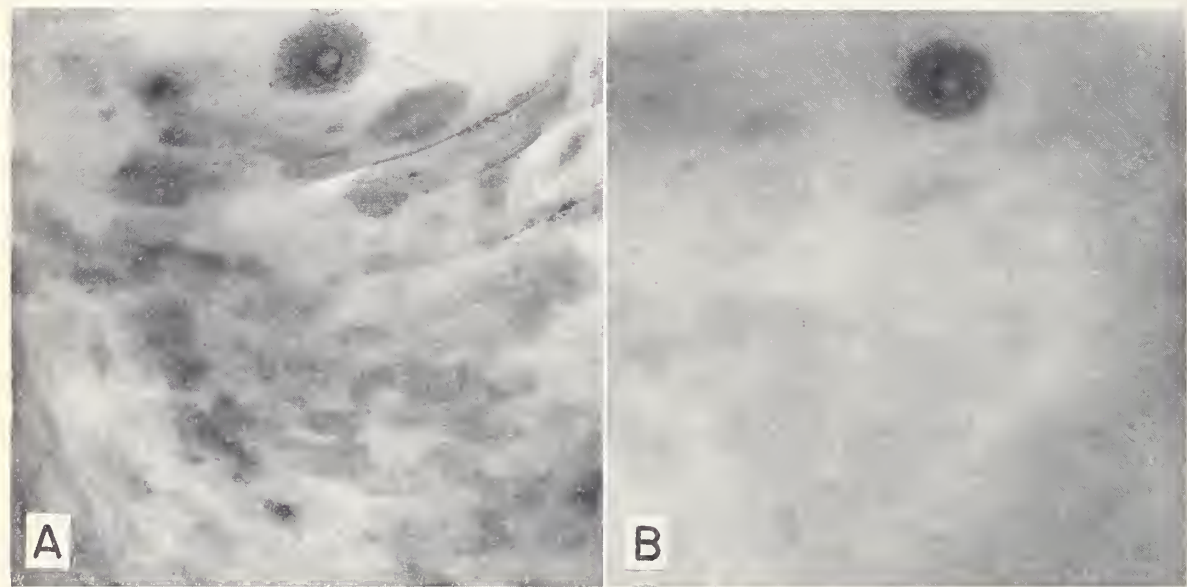


Figure 6.—A close-up of the right chest of the patient illustrated in Figures 4 and 5. A—Before electron beam therapy; B—two months after therapy.

TABLE 1.—Summary of Clinical Data in Six Cases in Which Electron Beam Therapy Was Administered in Mycosis Fungoides

Case	Age Diagnosis Established	Electron Therapy Administered (Date)	Dose in Rads	Results
1.	52	April, 1958	800	Symptom-free for eleven months. Recurrence in March, 1959.
		April, 1959	800	Symptom-free for two months. Severe pruritus and generalized erythema appeared in June, 1959.
		July, 1959	1,200	No improvement. Increased dosage given because of rapid deterioration of skin. Died in October, 1959, of pneumonia.
2.	60	February, 1959	800	Equivocal improvement. Pruritus and induration diminished slightly. Died in March, 1959, of endocarditis.
3.	54	January, 1957	700	Symptom-free for ten months. Isolated tumors reappeared in October, 1957, and resolved following conventional x-ray treatment.
		February, 1958	400	Throughout 1958 plaques appeared on scalp, face, buttocks, arms. These were treated with localized beam exposures.
		April, 1958	400	Partial to complete disappearance of lesions.
		September, 1958	400	New lesions in treated areas or adjacent sites within 45 days of each electron beam treatment.
		January, 1959	600	
		March, 1959	800	Total body treatment. No improvement. Died in May, 1959, of lymphosarcoma.
4.	72	March, 1958	800	Pronounced improvement. Main complaint of pruritus diminished, generalized erythema and "tightness" persisted.
		February, 1959	800	Retreatment for recurrence of severe pruritus. (With decided improvement.) No change in general texture of skin. No exacerbation as of February, 1960.
5.	75	February, 1959	800	Lesions disappeared. No recurrence as of February, 1960.
6.	47	April, 1958	700	Symptom-free for 8 months. Plaques and pruritus reappeared in January, 1959.
		February, 1959	800	Symptom-free as of February, 1960.

October 1957, new tumors and a few plaques appeared, necessitating local superficial x-ray therapy to the tumors. In February 1958 the plaques became very numerous and at that time and in April and September 1958 and January 1959, electron beam therapy was administered to selected areas of the body and extremities. The plaques and smaller tumors regressed, but recurrent or new lesions appeared within 45 days after each treatment. In March 1959 a full course of electron beam therapy was given, with only slight benefit. The patient died in May, 1959. At postmortem examination, lymphosarcoma of the skin and internal organs was noted.

CASE 4. A 68-year-old white man first noted lesions on the trunk and extremities in 1954. The integument was diffusely erythematous, thin and atrophic. There was decided pruritus. Electron beam therapy was administered in March 1958 and the pruritus was alleviated but the diffuse erythema and skin atrophy persisted. In February 1959, because of progression of the pruritus, electron beam therapy was again administered, with notable diminution of pruritus. As of February 1960, the patient was only slightly symptomatic.

CASE 5. A 75-year-old white woman had disseminated plaques on the face, trunk and legs. In addition, on one leg there was a deep ulcer that was resistant to extremely large doses of x-ray. The patient was treated with the electron beam in February 1959, with prompt regression of the pruritus and regression of all lesions except the deep ulcer on the leg. As of February 1960 there was no recurrence.

CASE 6. A 43-year-old white woman had disseminated plaques on the trunk and extremities, first noted in 1953. Diagnosis of mycosis fungoides was established microscopically in 1957. Electron beam therapy was administered in April 1958, with prompt regression of lesions and pruritus. In September 1958, new lesions appeared and in February 1959 a second complete course of electron therapy was administered. The response was excellent. As of February 1960 there was no recurrence.

SUMMARY OF EXPERIENCE IN SIX PATIENTS

In all of our patients the disease became resistant to all conventional methods of therapy before the electron beam was used.

Treatment with the electron beam resulted in regression of the skin lesions and in relief of pruritus which then did not return for a long time in any of the patients except one. One patient (Case 2) died before an adequate evaluation was possible.

Therapy appeared to be more effective and beneficial when administered early in the course of the disease. When the disease had progressed to the tumor stage, the results of electron beam therapy were less dramatic.

ACKNOWLEDGMENT: The Stanford medical linear accelerator was developed with the aid of a development contract to the Microwave Laboratory of the Stanford University from the office of Naval Research, and of grants from the National Cancer Institute, National Institutes of Health, U. S. Public Health Service, and the American Cancer Society. Its adaptation to electron beam therapy was made possible by a grant from the Damon Runyon Memorial Fund for Cancer Research, and by a gift from the late Mr. Lloyd Dinkelspiel, former president of the Board of Trustees of Stanford University.

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Myometrial Reconstruction Following Myomectomy

An Improved Technique Utilizing Overlapping Laminations of Myometrium to Reinforce the Uterine Closure

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BY AN IMPROVED TECHNIQUE for myometrial reconstruction after myomectomy, the closure of the uterine operative wound is very strongly reinforced, making subsequent pregnancy decidedly less likely to cause rupture at the site. Indeed, in selected cases vaginal delivery can be the management of choice.

The chief indication for myomectomy is preservation of the child-bearing function of the uterus. In general, surgical intervention is indicated when fibromyomata become symptomatic by causing cyclic menorrhagia, menometrorrhagia or intermenstrual bleeding. Further, the majority of gynecologists believe that operation is indicated if the uterus is greater than the size of three months' gestation. In general if the woman is under 41 years of age, particularly if she is childless, myomectomy is the procedure of choice for dealing with fibromyomata. Each case, however, must be individually assessed.

The principal contraindications to myomectomy are: (1) Malignant disease anywhere in the genital tract; (2) poor operative risk; (3) patient over 41 years of age; (4) total inability to conceive, such as hopelessly irreparable tubo-ovarian disease.

Since the techniques for myomectomy have been detailed elsewhere,^{2,4,5} only salient points which are often not emphasized are presented.

I. Preoperative Management

A. Preliminary Evaluation of Tubo-ovarian Status

Whenever possible, and particularly when the woman is childless, a preliminary tubal insufflation should be performed. In addition, some physicians carry out hysterosalpingography, using an aqueous medium.⁴ In this manner, a submucous tumor may be outlined. If the myomata are not too large and there is question as to whether the tubes and ovaries are normal, a preliminary transvaginal pelviscopy⁴ (culdoscopy) may be of great value.

B. Orientation of the Patient and Her Husband

Preoperatively, the patient should be well oriented as to the proposed surgical procedure, preferably with illustrations such as those in Rubin's⁴ excellently illustrated monograph. Whatever fears,

• A simple, but much improved technique of myometrial reconstruction following myomectomy makes the line of closure much stronger, lessening the risk of uterine rupture at subsequent pregnancy.

Basically, three laminations of myometrium are utilized to cover the endometrial wound with three layers of intact uterine muscle.

The first myometrial layer is brought from above downward and coapted to the inner third of myometrium of the anterior uterine wall.

The second lamination of uterine muscle is developed from the middle and outer thirds of the anterior uterine wall, stretched over the endometrial wound, then securely anchored to the base of the salvaged hood of myometrium that covered the nest of fibromyomata.

The third myometrial lamination consists of the aforementioned hood of uterine muscle, which is drawn forward to help form a new portion of the anterior uterine wall.

Approximately three-fourths of patients who had full term pregnancy after this procedure were delivered vaginally.

superstitions and erroneous ideas she may have, must be brought to light and overcome. Frank, honest discussion with both husband and wife before the operation cannot be emphasized enough.

The woman and her husband must both be apprised of these facts: (1) Myomectomy may not clear the way for future pregnancy; (2) new fibromyomata may develop at a later date; (3) hysterectomy may become necessary if malignant disease is found or future pregnancy is deemed absolutely impossible.

C. General Health Measures

Since the procedure is almost always an elective one, local vaginal conditions such as endocervicitis or vaginitis should be eradicated before operation.

D. Time for Operation

The best time for operation is in the immediate postmenstrual period.

II. Operative Management of Myomectomy

A. Preliminary Dilatation and Curettage

Some surgeons recommend that diagnostic dilatation and curettage be done to rule out malignant

Presented before the Section on Obstetrics and Gynecology at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

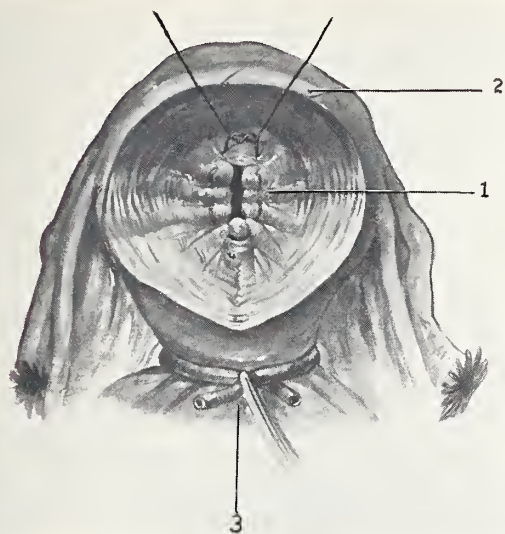


Figure 1.—Endometrial closure is facilitated by the blue-stained endometrium. (1) Usually, a purse-string suture is sufficient. (2) Hood of outer myometrium along with intact serosal surface that surrounded nest of myomata. (3) Uterine tourniquet in place. It consists of a thin soft rubber catheter that was passed through the avascular space of the broad ligament at the level of the internal os. The free ends had been stretched taut and crossed. A hemostatic clamp has been applied to the point of crossing to hold the tourniquet snugly in place.

disease before laparotomy is begun. This step seems unnecessary, however, if the extensive studies that should have been done previously, especially endometrial biopsy and Papanicolaou smears, have been evaluated.

B. Intra-uterine Instillation of Methylene Blue Solution

Just before laparotomy, under proper asepsis, an intrauterine Jarcho cannula is locked in place and 5 to 10 cc. of 1 per cent aqueous methylene blue in saline solution is injected slowly into the uterine cavity. If the dye flows easily, the cannula is withdrawn in one or two minutes. If not, 5 to 15 cc. of saline solution is injected through the cannula with moderate pressure, back flow being prevented by locking the two-way stop-cock after each 2 to 3 cc. As the epithelium will remain intensely blue for about two hours, the lumen of the uterus and tube will be outlined distinctly during the operation. If the tubal fimbriae are deeply stained and free, the surgeon knows the tube is patent.¹

Preliminary instillation of methylene blue is heartily recommended, since it is so essential to know accurately where the endometrium is during myometrial reconstruction. Identification of the uterotubal lumen is equally important, lest it be inadvertently closed in the process of repair. Further,

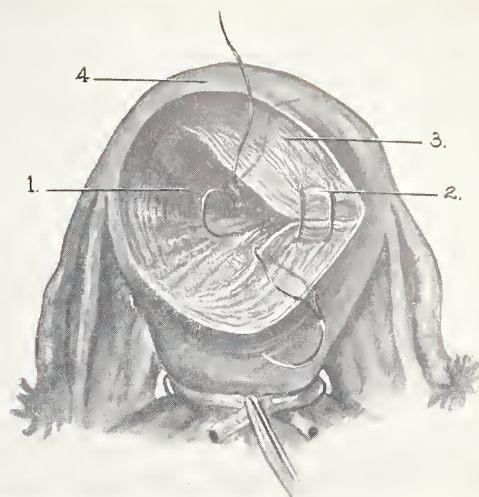


Figure 2.—First overlapping lamination of myometrium. (1) The inner myometrial layer above the closed endometrial wound is brought down over and past the endometrial closure and coapted to the inner myometrium below by interrupted sutures. (2) A second layer of uterine muscle from above has been dissected free and is now being anchored below by interrupted sutures. (3) Mass of hypertrophic uterine muscle which surrounded fibromyomata. (4) Hood of salvaged portion of outer myometrium.

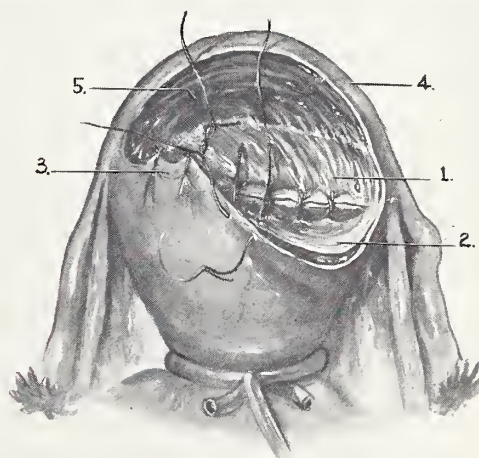


Figure 3.—Second overlapping lamination of myometrium. (1) Approximate site of closed endometrial wound which is now covered by the first overlapping lamination of uterine muscle. Compare this with sagittal section in Figure 5. (2) The middle layer of myometrium from the anterior uterine wall has been developed by careful dissection so as to make it more pliable. (3) The middle and outer thirds of the myometrium of the anterior uterine wall below the myometrial wound are being anchored to the base of the hood of myometrium. Usually, two layers are necessary, especially in the central portion. (4) Hood of myometrium with intact peritoneal surface. (5) Hypertrophic and excessive myometrium which surrounded the fibromyomata.

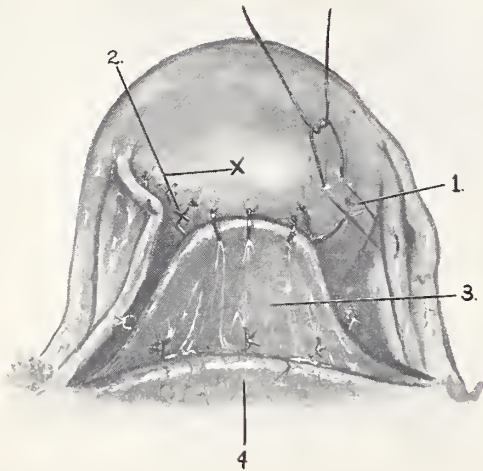


Figure 4.—Third overlapping lamination of myometrium. The salvaged hood of the outer third or so of myometrium with its intact peritoneal surface has been brought down over the first two laminations. (1) The round ligaments are utilized to provide peritoneal covering for the outer corners of the hood of myometrium. (2) The outer edges are shown tacked down with interrupted sutures. (3) The lower edges of the tacked down myometrial hood are faintly visible through the small piece of uterovesical peritoneum which had been dissected free previously, and is here shown anchored high on the new anterior uterine wall. (4) The edge of the empty urinary bladder is shown. Note that just above are three interrupted sutures to prevent the bladder from rising too high. This is done to preserve normal anatomic placement in case cesarean section should later become necessary.

if the tubes are not open, the obstruction to the passage of the dye will identify the site of closure, facilitating tubal plastic procedures.

C. Salient Points of Myomectomy

Abdominal opening. Usually a sweeping elliptical transverse incision is best. After the peritoneum is opened, a quadrilateral self-retaining retractor is placed, freeing both the assistant's hands.

Hemostasis is best accomplished by a tourniquet around the uterus at about the level of the internal os (Figure 1). A soft rubber catheter serves this purpose admirably. After a small opening is made in the avascular space of the broad ligament at the level of the internal os, one end of the catheter is pulled through. A similar procedure is carried out on the opposite side. The ends of the catheter are tautly crossed and a small hemostatic clamp is applied at the point of crossing. In some situations, it is better to clamp the crossed portions of the catheter on the posterior surface of the uterus. The tourniquet is left in place for the duration of the procedure, since intra-uterine blood flow is decidedly reduced, although not completely stopped. A small amount of blood comes into the myometrium through the utero-ovarian anastomosis. Some sur-

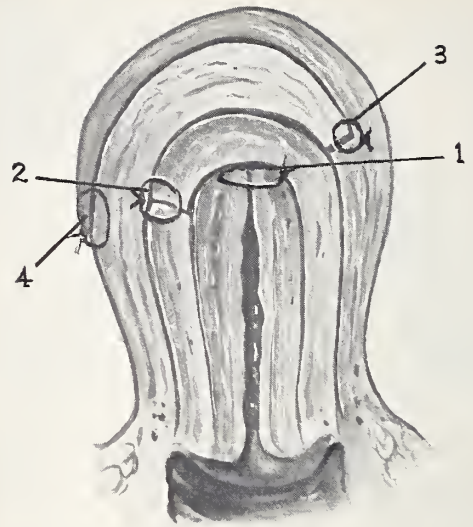


Figure 5.—Schematic representation of myometrial reconstruction utilizing overlapping laminations of myometrium. (1) The endometrial cavity has been closed. (2) The first overlapping myometrial lamination has been brought down over the endometrial wound and snugly coapted to the inner third of the anterior wall of myometrium. (3) The second overlapping myometrial lamination has been developed from the anterior uterine wall, brought up and over the endometrial wound and then anchored to the base of the salvaged hood of the outer third of myometrium. (4) The hood of myometrium with its intact peritoneal surface has been brought down and over the first two overlapping laminations of myometrium, and the outer edges tacked down with interrupted sutures. With completion of this step, the endometrial wound has been reinforced with three intact overlapping layers of myometrium. (Note: Reconstructed anterior uterine wall is on the left.)

geons prefer to release the catheter at 10 to 20 minute intervals for 30 seconds or so. I do not consider it necessary.

As an alternative, the Bonney myomectomy clamp may be used, although it tends to be cumbersome. It should be noted that Bonney¹ leaves the clamp on for the duration of the procedure.

Single incision on the anterior wall. There are very few myomata that are not accessible through such an incision. A transverse incision across the anterior uterine surface is preferable, but the conditions observed at operation will determine the direction of the single linear incision into the anterior surface of the corpus.

Careful gentle dissection. With proper hemostasis, there is absolutely no need to sacrifice gentleness and deliberate careful dissection for speed.

Preservation of serosal surface of myometrium. It is essential that the outer myometrium and its peritoneal surface be preserved as intact as possible at all times. Only after the second layer of myometrium has been developed and anchored in place

(Figure 3) should excision of excess myometrium be considered.

Direct inspection of the endometrial cavity (and curettage, if necessary) is absolutely essential. If the cavity had not been opened before, it should be deliberately cut into before myometrial reconstruction is begun. All polyps are removed onto a sterile towel. Curettage should be done if the blue stained endometrium appears hyperplastic or atypical.

With one finger in the endometrial cavity, counter pressure with the other hand or a thumb may often bring to light a small submucous myoma or one situated deep in the myometrium. The myometrium should thus be explored carefully and deliberately in search for tumors. This maneuver does not introduce infection.

III. Myometrial Repair

A. Preservation of Endometrial-Tubal Continuity

Before the myometrial repair is started, the location and integrity of the uterotubal junction must be ascertained. If there is any question, a fine probe may be placed in the tubal opening until that area is carefully sutured. When the endometrial cavity is closed, the probe is removed. Closure should be done with interrupted sutures of fine catgut (such as triple zero, 21-day chromic catgut) on a medium to large round-pointed needle.

B. Steps in Improved Myometrial Reconstruction Utilizing Technique of Overlapping Laminations of Myometrium

Closure of endometrial cavity (Figure 1) may usually be accomplished by a purse-string suture (Figure 5) or interrupted figure 8 sutures. (The identifying blue dye in the endometrium facilitates this step.) If the endometrial cavity appears too large, an oval shaped portion may first be removed.²

First overlapping myometrial lamination (Figure 2). The inner layer of myometrium above the closed endometrial opening is brought down over it and anchored in place with simple interrupted or figure 8 sutures (Figure 5). Occasionally, two layers of sutures are needed. Frequently this layer of muscle may have to be freed for the purpose with the dissecting scissors. As a rule, it should be about 0.5 to 1.0 cm. thick.

Since extreme care is necessary not to tie off the uterotubal lumen at the lateral corners, the suturing there should be done first, with the stitches very close together and accurately placed in the myometrium.

Second overlapping myometrial laminations (Figure 3). The outer myometrium on the anterior surface of the uterus (the portion below the original transverse incision) is then brought up and over the site of the endometrial wound and anchored at

the base of the hood of myometrium which had covered the fundal myoma. If necessary, this portion of the myometrium may have to be freed or loosened with the dissecting scissors. Usually, two layers of sutures are necessary to anchor it securely to the base of the myometrium above the wound. In this manner, a second intact layer of uterine muscle is made to overlap the closed endometrial incision (Figure 5). Following this step, the tourniquet is loosened for one minute and hemostasis checked for adequacy.

After this layer has been completed, considerable judgment must be exercised by the surgeon. When reconstructed the uterus should be no larger than it would be at six weeks' gestation. Accordingly, if considerable hypertrophy of the myometrium has taken place about the myomata, a certain amount of the middle muscular layer of myometrium may need to be excised. Usually, the excessive portion is located at the upper portion of the corpus (Figure 2). With experience, the amount necessary is easily determined. For the neophyte, it is suggested that small amounts be trimmed off in layers of about 0.5 cm. until the right amount has been removed. Care should be exercised to make the corpus as symmetrical as possible, using the uterine insertion of the round ligaments as guide points.

There is a difference of opinion on the question of whether reduction in size of the corpus uteri is necessary. Bonney² expressed belief that if it is not reduced, subinvolution and menorrhagia are much more likely to develop. Rubin,⁴ Louros³ and other investigators have said that the uterus will eventually involute to or near to the normal size as it does following pregnancy. Without attempting to resolve this difference of opinion, it can be pointed out that reduction in the size of the uterus as outlined above is simple and safe and it does greatly lessen the risk of excessive menstrual bleeding.

Development of third overlapping myometrial layer (Figure 4). Upon completion of the second lamination, the hood of myometrium that covered the fundal myoma is stretched taut over the previous layers and tacked down as far as possible on the anterior uterine wall with interrupted sutures. This reinforces the uterine incision with a third intact layer of myometrium (Figure 5). The tourniquet is again loosened to be sure that hemostasis is complete, then is removed.

(Note: The same method of overlapping layers of myometrium may be used for closing a vertical uterine incision on either the anterior or posterior wall. However, the layers are overlapped vertically instead of horizontally, a much more difficult procedure.)

Providing peritoneal covering. The round ligaments may be used to cover raw surfaces at the cor-

ners. In the central portion, a layer of vesicouterine peritoneum may be dissected free and brought up to cover the edge of the brim of the hood. If this is done, it is advisable to place three interrupted sutures just above the level of the empty bladder to prevent it from riding high onto the corpus.

On the posterior surface of the corpus, the ovary may be anchored over a high uterine incision. If the incision is low, the peritoneum over the uterosacral ligaments may be used to cover the wound. If there are numerous incisions on the posterior surface, then the large bowel may be anchored to it; a piece of omentum may be dissected free and held in place with interrupted sutures; or, best of all, a large piece of dry Gelfoam® may be used to cover the raw surfaces, a few well placed sutures holding it in place. The holes in the broad ligament are closed with purse string sutures from the anterior surface.

Temporary one-point suspension of the uterus was performed in over half of the 61 cases in which the operation here described was used. This is accomplished by passing a nylon or dermal suture, size 0, through the anterior superior surface of the uterus. The ends, which are left long and untied, are passed out through the incision. When the skin edges are closed, the loose ends are tied snugly, but not tightly, over a four-fold piece of gauze. After normal bowel function has been established, usually on the third postoperative day, one side is cut and the suture is removed.

The temporary one-point suspension serves two purposes. First, when the uterus is held up in this manner, there is no vascular congestion and thus less chance of oozing. Second, if abdominal disten-

tion does occur, there is far less chance of adhesions of small bowel to the anterior uterine surface.

In some cases, a modified Gilliam suspension was utilized for a more permanent form of uterine suspension.

NOTES ON RESULTS

Between 1946 and 1958, the techniques described were used in 61 infertile women with significant myomata uteri. Forty (65.7 per cent) conceived, while 27 women (44.3 per cent of the total) went to term one or more times. Some 75 per cent were delivered vaginally. Several were given very dilute Pitocin® intravenously for dilatory labor. The principal indications for cesarean section were contracted or borderline pelvis, breech presentation, active labor for 12 hours with no progress and primiparity after age 36. One patient was delivered, in another city, of an 8-pound baby presenting by breech after 36 hours of good active labor.

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Advanced Neoplastic Disease

Treatment with 5-Fluorouracil and Irradiation

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CURRERI, ANSFIELD and their associates^{1,2} have shown that the intravenous administration of the pyrimidine antagonist, 5-fluorouracil (5-FU), produces a significant degree of objective improvement in an impressive number of patients with far advanced cancer. We have confirmed their observations in patients with hepatoma, hormone-resistant carcinoma of the breast and carcinoma of the colon. However, certain kinds of neoplastic disease, particularly squamous cell carcinomas of the lung and of the head and neck, did not respond to treatment with this agent alone.

The studies of Curreri and coworkers also clearly showed that the range between therapeutic and toxic levels of 5-FU administration was narrow, and that pronounced signs of tumor regression were observed when a mild degree of toxicity was induced during treatment with the drug. Major manifestations of toxicity were characterized, most commonly, first by the development of ulcerative lesions in the mucosal lining of the alimentary canal with both squamous and columnar epithelium being affected, and later by suppression of hemopoiesis. Since the growth of normal squamous (or columnar) epithelium was seriously impaired by the administration of 5-FU, it seemed logical to assume that rapidly growing, anaplastic carcinomas of squamous cell origin might absorb enough 5-FU to interfere with the metabolism of individual tumor cells (even though not in a sufficiently high concentration to produce tumor cell death), thus making them more readily susceptible to the cancericidal effects of ionizing radiation. Hence, a study was undertaken to determine the possible response and the toxic effects of 5-FU when administered concomitantly with x-radiation to patients with 5-FU-resistant, inoperable cancers. Preliminary reports of this study have been published.^{3,4}

METHOD OF STUDY

The initial phase of this investigation was designed to study the effect of combined therapy on inoperable, anaplastic squamous cell carcinomas of

- One hundred and twelve patients with far advanced, inoperable neoplastic disease were treated by a method utilizing the simultaneous administration of the pyrimidine antagonist, 5-fluorouracil, and ionizing irradiation to an estimated tumor dose of 2,000 roentgen units. Seventy-seven of them had periods of objective regression of tumor of three months or more.

The data presented suggest that either there may be an additive effect when the two modes of therapy are used simultaneously or one mode of therapy may potentiate the antitumor effect of the other.

the lung and of the head and neck. Subsequently, other forms of neoplasms, including those in patients with extensive pulmonary metastasis, were included.

The original dosage schedule for 5-FU when used alone, proposed by Curreri and coworkers^{1,2} was as follows: 15 mg. per kg. of body weight for five successive days, followed by 7.5 mg. per kg. every third day for four doses. Doses for obese patients were calculated on ideal weight, but no patient, no matter how obese, received more than 1.0 gm. of 5-FU per day. Since it was anticipated that symptoms of toxicity would be produced more readily with combined 5-FU and radiation therapy, a dosage schedule slightly less than that proposed by Curreri and coworkers was adopted by us: 15 mg. per kg. per day was given on three successive days, 7.5 mg. per kg. on the fourth day, the same dose on the fifth day, and thereafter 7.5 mg. per kg. twice weekly until two weeks after x-ray therapy had been completed. The drug was given by intravenous injection. Administration of the compound was interrupted for several days at the first sign of the development of a toxic manifestation. Treatment was resumed as soon as all signs of toxicity had disappeared. Blood cell counts as a rule were obtained at weekly intervals, but occasionally more frequently.

Since it is known that squamous cell carcinomas of the lung and of the head and neck, with rare exceptions, will not regress significantly as a result of irradiation to a depth or tumor dose of 2,000 roentgen units, all of our patients, during the initial phase of this study, received 2,000 r or less total tumor dose concomitantly with the administration of 5-FU. Since it is also known that radiation pneumonitis or

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Presented before the Section on Internal Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

TABLE 1.—Results of Treatment with 5-FU + Irradiation (112 Patients with Cancer)

Type of Neoplasm	No. of Cases	Objective Response	Subjective Response Only	Treatment Inadequate	Not Evaluable	None
Carcinoma:						
Lung.....	38	33	....	....	....	5
Head, neck	15	10	2	2	1	....
Ovary.....	8	4	....	1	1	2
Breast.....	7	5	....	....	....	2
Bladder.....	5	2	1	....	1	1
Metastasis	5	3	....	....	1	1
Pancreas.....	4	2	....	....	1	1
Colon, rectum.....	4	1	1	....	....	2
Stomach.....	4	2	....	2	....	....
Cervix.....	4	1	....	1	....	2
Esophagus.....	3	2	....	....	....	1
Uterus.....	2	2	....	....	....	....
Gallbladder.....	1	1	....	....	....	....
Malignant melanoma	4	1	....	....	1	2
Reticular cell sarcoma.....	3	3	....	....	....	....
Gynandrioblastoma.....	1	1	....	....	....	....
Embryonal cell.....	1	1	....	....	....	....
Osteosarcoma.....	1	1	....	....	....	....
Sarcoma, uterus.....	1	1	....	....	....	....
Mixed tumor, parotid.....	1	1	....	....	....	....
Total number of cases.....	112	77	4	6	6	19

pulmonary fibrosis rarely results from a depth dose in the lung of 2,000 roentgen units, the same dosage schedules for irradiation and 5-FU administration were used in patients having extensive pulmonary metastasis as in those with carcinoma of the lung and of the head and neck.

Later in the study, doses of irradiation in excess of 2,000 r (tumor dose) were given when it was felt that the nature and site of the lesion afforded a chance for a prolonged period of palliation. With few exceptions, orthovoltage was used; in a few cases, supravoltage.

In patients with pulmonary lesions, x-ray films of the chest were taken before radiation therapy was begun and one to three weeks after it was completed. Measurements of palpable lesions were made at one or two-week intervals.

RESULTS

The results in this study were reported under these headings: objective response, subjective response, inadequate treatment, not evaluable (result equivocal or patient lost to follow-up), and no response. Objective response includes: (1) measurable reduction in tumor size; (2) leveling off or reversal of downward weight curve; (3) improvement in patient's performance status; and (4) maintenance of the above criteria for a minimum of three months. These criteria are slightly more rigid than those of Curreri and Ansfield, whose data are based on a two months' period of improvement.

The results of combined 5-FU and radiation therapy in 112 patients with cancer are shown in Table 1. Seventy-seven showed improvement that fulfilled

the criteria for objective response. The highest incidence of objective response was noted in carcinomas of the lung and of the uterus and in reticular cell sarcoma. Relatively good incidences of response also were observed in carcinomas of the head and neck, esophagus, breast and ovary. In isolated instances, patients with widespread metastasis in the lungs arising from a number of primary sites had long periods of objective response. Illustrative cases are shown in Figures 1 to 7.

TOXICITY

The studies of Curreri and coworkers showed that when 5-FU was used alone, tumor regression was observed only when patients were treated to a toxic level. Therefore, their regimen of therapeutic procedure consisted of an attempt to attain minimal to moderate toxicity yet avoid severe toxicity.

Our protocol was designed to avoid the development of toxic manifestations insofar as possible, although occasional moderate to severe toxic reactions were anticipated because of the apparent additive effect of 5-FU when used concomitantly with ionizing radiation. Toxicity was minimized by careful inquiry daily concerning the earliest symptoms of the development of sore mouth, sore throat, pain on swallowing, cramping abdominal pain or diarrhea. Whenever these symptoms occurred, both radiation and drug therapy were discontinued until the symptoms had abated—three or four days. It was found that failure to follow this practice often resulted in severe toxic reactions. The incidence of toxic manifestations in our series of cases is shown in Table 2.

TABLE 2.—Toxic Manifestations in Series of 112 Patients with Cancer Treated with Combined 5-FU and X-ray Therapy

Toxic Manifestations:	No. of Cases
Stomatitis	11
Pharyngitis	7
Dysphagia	9
Nausea and vomiting	4
Diarrhea	19
Loss of hair	3
Dermatitis	2
Leukopenia (below 4,000 cells per cu. mm.)	68
Thrombopenia (below 100,000 cells per cu. mm.)	8

Leukopenia with neutropenia occurred more frequently than any other sign of toxicity. In most instances, the leukocyte count seldom fell below 2,000 to 2,500 cells per cu. mm., but occasionally a severe degree of leukopenia developed with alarming rapidity. In one case, that of a 16-year-old boy who was receiving combined therapy for recurrent squamous cell carcinoma of the nasopharynx that had spread to cervical lymph nodes, the leukocyte count fell from 6,400 to 600 cells per cu. mm. in the course of one week. Treatment was stopped and one week later the leukocyte count had risen to 4,600 cells per cu. mm. In our experience, recovery from a severe degree of leukopenia is almost as rapid as the initial fall, providing both radiation and drug therapy are interrupted promptly.

While combined treatment brought about a decrease in thrombocytes below 100,000 per cu. mm. in eight of 112 patients in the series, hemorrhagic phenomena were not observed. Platelet counts returned to normal levels promptly following cessa-

tion of treatment. Erythropoiesis was not significantly affected by the concomitant use of 5-FU and irradiation in the present series.

DISCUSSION

Early studies by Ansfield and Curreri¹ demonstrated that carcinoma of the lung (16 cases) and of the head and neck (four cases) did not respond to treatment with 5-FU when that agent was administered alone. However, in the present study neoplasms of the same type were observed to regress at an unusually rapid rate when treated simultaneously with the drug and ionizing radiation, even with estimated tumor doses as low as 2,000 roentgen units. Moreover, the responses to combined therapy were remarkably consistent. It is postulated that the data herein reported suggest that either there may be an additive effect when the two modes of therapy are used simultaneously or one mode of therapy may potentiate the antitumor effect of the other.

Systemic toxicity from 5-FU does not seem to be enhanced by the concomitant administration of localized irradiation, but mucosal and cutaneous reactions within irradiated fields are decidedly greater with combined therapy than with irradiation alone. This is especially true of pelvic or abdominal fields, necessitating reducing not only individual doses of 5-FU but also the daily doses of radiation (not infrequently by as much as 50 per cent). Except in rare instances of hypersusceptibility, severe toxic reactions can be avoided by carefully inter-

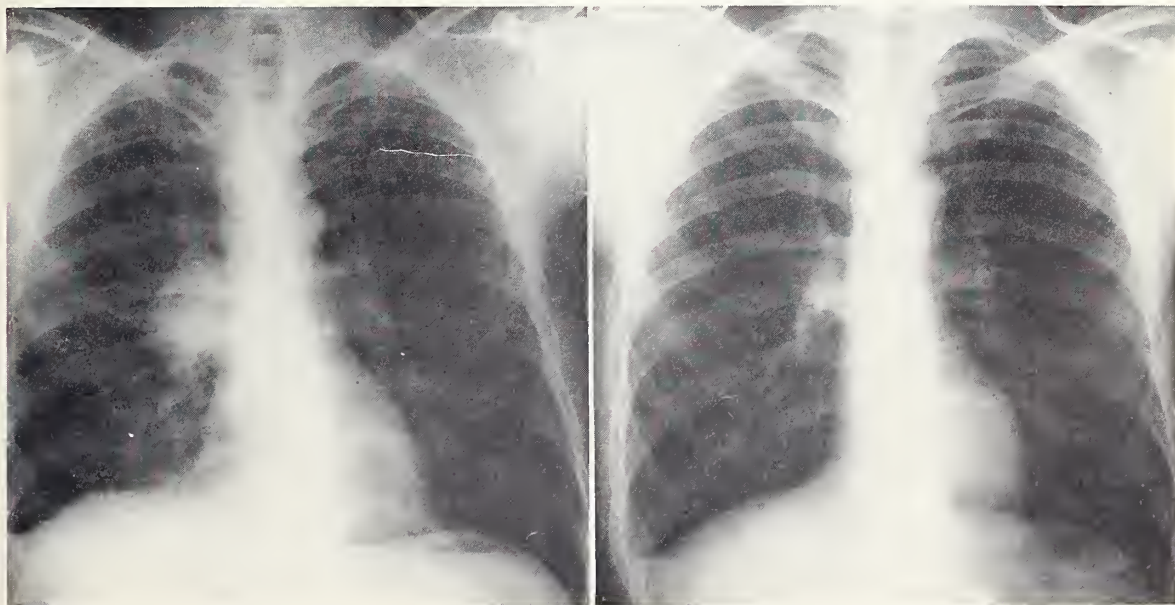


Figure 1.—The patient, a man 44 years old, had bronchogenic carcinoma of the right lung. *Left:* A chest film, dated August 13, 1959, taken before starting combined 5-fluorouracil and orthovoltage radiation therapy. *Right:* Chest film taken on September 15, 1959, four days after completion of combined treatment (estimated radiation tumor dose: 1,890 r).



Figure 2.—The patient, a man 70 years of age, had bronchogenic carcinoma, right lung. *Left:* Chest film dated January 19, 1959, taken before commencing combined therapy. Metal clips were inserted to outline tumor margins at time of thoracotomy. *Right:* Chest film dated March 16, 1959 was taken 17 days after completion of supravoltage irradiation (6 MEV linear accelerator), 5,628 rads being delivered into the tumor. The patient was living without evidence of recurrent disease 21 months after institution of treatment.

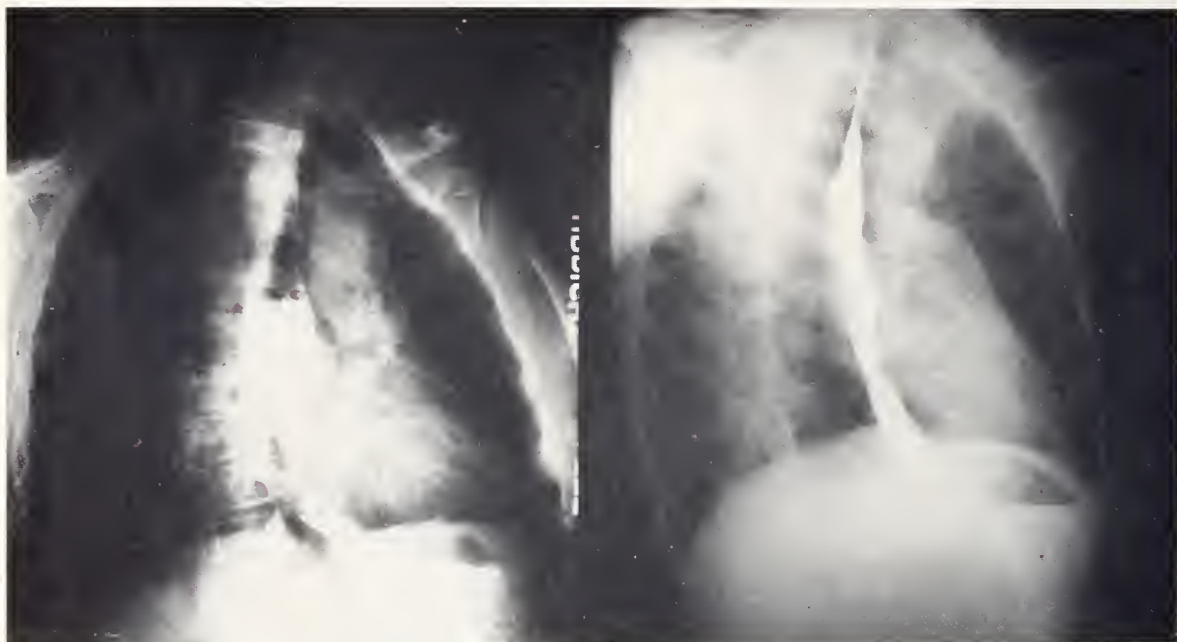


Figure 3.—A 43-year-old man had adenocarcinoma of esophagus at junction of middle and lower thirds. *Left:* Film dated August 18, 1959, taken before starting combined therapy. *Right:* Film dated November 9, 1959 was taken 13 days after completion of irradiation therapy (3,000 r in air delivered to each of two portals, anterior and posterior chest).

viewing and examining patients each day while they are undergoing combined treatment. If this is done, ambulatory patients can be treated safely on an out-patient basis. However, it is important to emphasize that blond or red-headed patients with thin, white skin are particularly susceptible to severe cutaneous reactions when orthovoltage is employed

concomitantly with the administration of 5-FU unless the daily dose of irradiation is kept at a very low level. Combined therapy utilizing supravoltage in patients of this type minimizes the risk of serious skin reactions.

At least two advantages to combined therapy of the type described in this paper are readily appar-

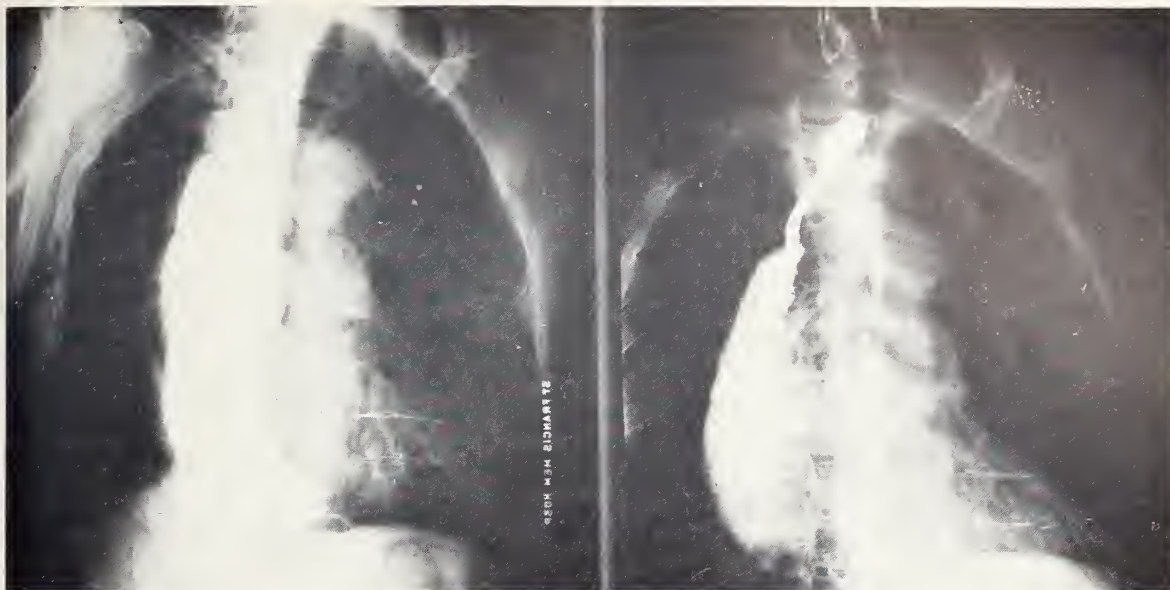


Figure 4.—Case of recurrent squamous cell carcinoma of esophagus at junction of upper and middle thirds in man 68 years of age. *Left:* Film dated July 7, 1960, made before beginning combined therapy, reveals pronounced constriction of the remaining small portion of the esophagus above the transplanted stomach (the lower two-thirds of the esophagus had been resected 1 year previously). *Right:* Film dated August 10, 1960 was made 12 days after completion of irradiation therapy (1,440 r, estimated tumor dose).

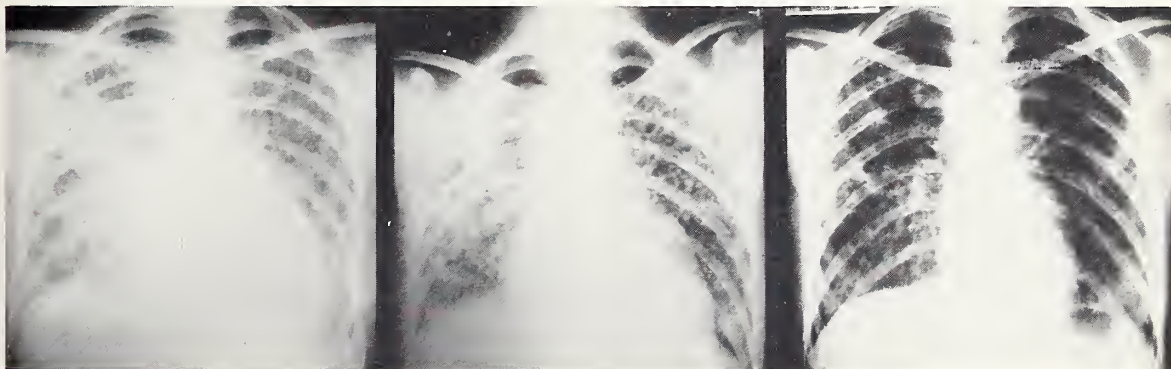


Figure 5.—A woman 28 years of age had widespread metastatic undifferentiated carcinoma, primary site unknown. *Left:* Film dated September 25, 1959 was made before institution of combined therapy. Note the enormously enlarged heart secondary to cor pulmonale. *Center:* Film dated November 18, 1959 was taken 31 days after completion of irradiation therapy (1,700 r depth dose) to the right lung. *Right:* Film dated December 30, 1959 was made 23 days after completion of irradiation (1,700 r depth dose) to the left lung. The return of the heart size to that approximating normal should be noted.

ent. First, significant and at times prolonged periods of tumor regression can be obtained with radiation tumor doses of 2,000 roentgen units or less, thus minimizing the deleterious effects of irradiation on certain normal tissues. For example, one or both lungs containing multiple metastatic lesions may be treated with relatively little risk of producing radiation pneumonitis or fibrosis. Second, recurrent tumors in previously heavily irradiated areas may be re-treated with less danger of producing radiation necrosis. Moreover, combined therapy of the type herein described opens up new avenues for research in the treatment of patients with inoperable cancer, for example, (1) studies of duration of remission

and/or survival times of patients with inoperable primary lesions treated with 5-FU and irradiation in tumor doses far in excess of 2,000 roentgen units, using supravoltage as well as orthovoltage techniques; and (2) utilization of analogues of 5-FU—5-fluoro-2'-deoxyuridine (FUDR) and 5-bromo-2'-deoxyuridine (BUDR)—with ionizing irradiation to determine whether or not these compounds might be less toxic than 5-FU. In our investigation to date, the initial response to combined therapy has been impressive. Consequently, a study designed to determine the long-term effects of treatment with 5-FU and irradiation has been initiated.

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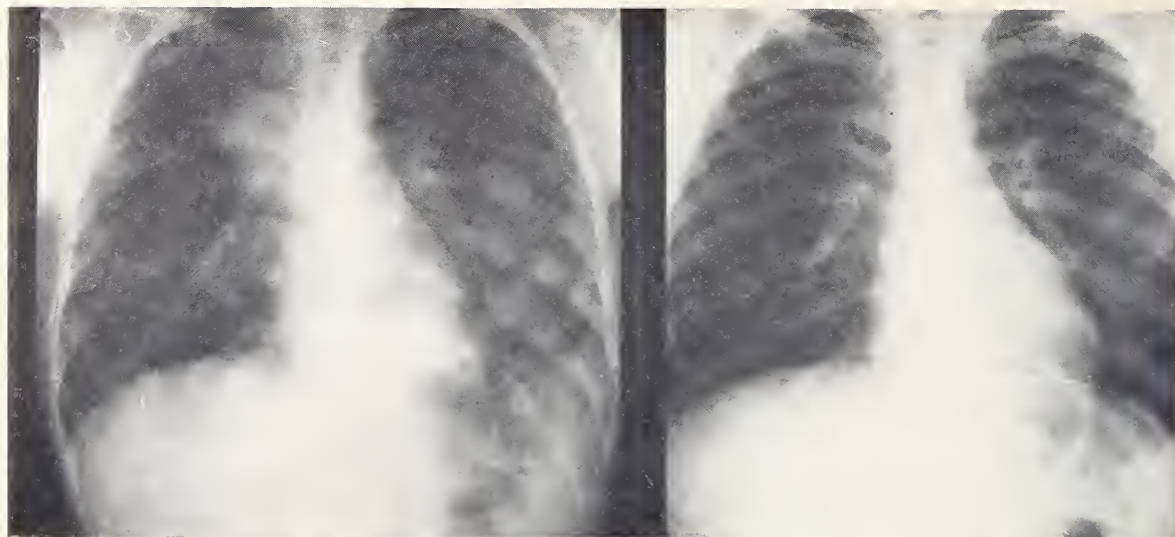


Figure 6.—The patient, a 16-year-old boy, had pulmonary, hilar and mediastinal metastatic lesions from Ewing's sarcoma arising in right calcaneus. *Left:* Film dated May 25, 1960 was taken before combined therapy. *Right:* Film dated June 20, 1960 was made one day after completion of irradiation (1,000 r depth dose to both lungs).

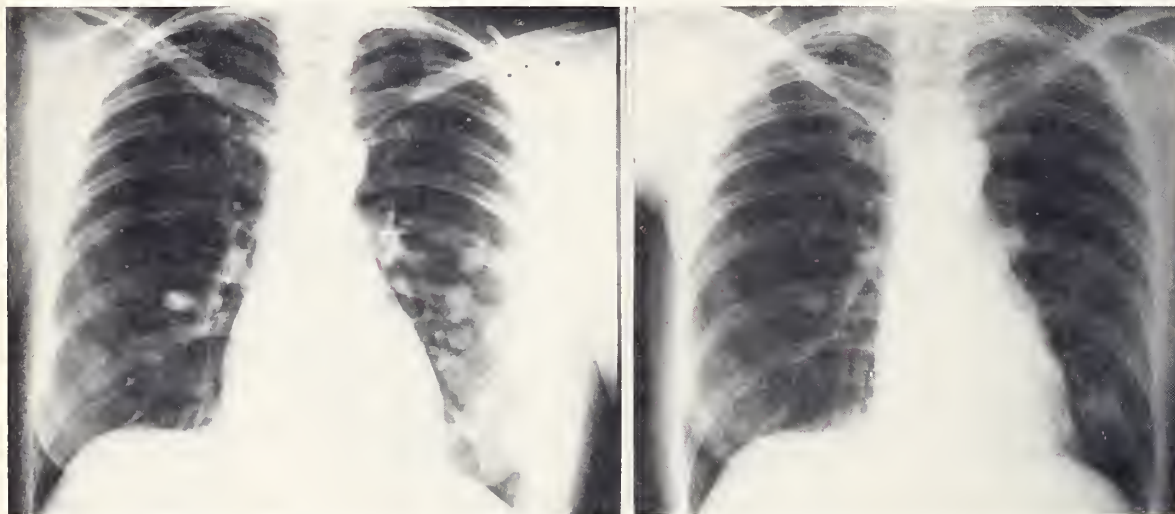


Figure 7.—A woman, 49 years of age, had pulmonary metastasis from adenocystic carcinoma of the salivary gland. *Left:* Film dated February 23, 1960 was before combined therapy was begun. *Right:* Film dated May 17, 1960 was made 43 days after completing a course of irradiation to the left lung (1,700 r depth dose) and 18 days after completion of irradiation to the right lung (1,800 r depth dose).

ACKNOWLEDGMENTS

We wish to thank Mr. M. J. Schiffrin and Dr. S. J. Hazan of Hoffmann-La Roche, Inc., Nutley, New Jersey, for supplying 5-fluorouracil for this study.

We also wish to thank the following physicians for their aid in this study: Dr. Justin Williams and his associates, St. Francis Memorial Hospital; Dr. William Anderson and Dr. K. Hockstetter, Presbyterian Medical Center; Dr. Robert Sherman, Children's Hospital; Dr. George LeClercq and associates, French Hospital; Dr. John Bryan and associates, St. Luke's Hospital; Dr. Russell Bernhard and associates, Marin General Hospital; Dr. J. H. Ward, Jr., Dr. H. T. Butler, and Dr. M. H. Godfrey, Napa State Hospital; Dr. F. M. Willett, Dr. L. V. Foye, Jr., and Dr. M. Roth, San Francisco Veterans Administration Hospital; Dr. C. J. Attwood and Dr. D. Merrill, Merritt Hospital, Oakland; and Dr. H.

Kaplan and Dr. M. Bagshaw, Stanford University School of Medicine, Palo Alto.

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The Repair of Difficult Inguinal Hernias

Resection of the Spermatic Cord

JOHN H. GIFFORD, M.D., and ROBERT J. MOES, M.D., Los Angeles

FOR CERTAIN HERNIAS the prospect of cure is greatly enhanced by completely closing the internal ring and obliterating the inguinal canal. For some hernias, notably those of the large sliding type and hernias that recur time and again, the prognosis is poor unless the internal ring and the inguinal canal are repaired in that way.

The classical means of dealing with hernias of this order involved castration. In modern times when the testis is removed, the cord structures are removed to the level of the internal ring and proper reconstruction of the region is carried out. This is the common procedure today in operations for repair of hernia of the type under consideration.

Each of the authors of the present communication, independently of one another, for many years has dealt with hernias of this type by removal of the cord structures from the inguinal canal and preservation of the testis and the portion of the spermatic cord distal to the external ring. One of us first undertook this mildly startling approach following the observation that often upon complete dissection of recurrent hernias in cases in which there had been a number of previous repairs, no semblance of cord structure, much less of circulation to the testis, could be found, and yet the testis was a viable and apparently normal structure. The other author began using this method after observing, in a case in which the spermatic artery was inadvertently severed, that atrophy or other permanent alteration in the testis did not ensue.

Upon a review of the literature, we found previous reports and observations, albeit somewhat scanty, on the method we had happened upon. Burdick and Higginbotham,¹ reporting in 1935, were apparently the first to describe intentional division of the cord structures in the treatment of inguinal hernia. They listed two hundred cases treated in this fashion. Wound infection developed in 17 per cent of cases and the recurrence rate for hernia was 10 per cent. The fate of the involved testis was not made plain, although it appeared that orchiectomy was necessary in four cases, in each instance because of persistent infection. A fairly common observation was that the testes became swollen and

• A method of removing the cord structures from the inguinal canal and preserving the testis and the portion of the spermatic cord distal to the external ring was used in repair of large or recurrent hernias in 14 patients. Only one patient had pronounced testicular atrophy. In one case there was recurrence through the femoral canal. The procedure is simpler and shorter than removal of the testicle as well as the cord.

tender and that this persisted for approximately two months following operation. Atrophy occurred rarely.

In 1940 Neuhof and Mencher³ reported on 25 cases of recurrent and sliding hernias in which the cord structures were divided and ligated. Nineteen of the patients were available for later study. Six of them had obvious atrophy of the testis and two a slight atrophy. Eleven remained grossly normal. In this series none of the patients had to have a testis removed because of necrosis or "infection." In two of these patients the involved gonads later became available for microscopic study and they were histologically normal. There were two recurrences of herniation.

Neuhof and Mencher refuted the misconception (which, however, still continues) that the internal spermatic artery is an end artery and the only one by which blood can be supplied to the testes. They portrayed the role of the cremasteric artery as the key vessel in the collateral circulation to the testis when all the vessels in the cord are tied off above the scrotum.

In 1952 Heifitz and Goldfarb² reported 23 cases in which the cord structures were ligated and removed from the inguinal canal. In four of the patients there was some degree of atrophy of the testis; in the remainder the gonads were grossly normal. In one case wound infection made orchiectomy necessary and in another the testis was later removed because of the development of a hydrocele. In the latter case the excised testis was found grossly and histologically normal. There were no recurrences in this series.

Resection of the spermatic cord is not technically difficult; indeed it is simpler than removing the testis and the cord. The simplicity reduces operating time and morbidity, a particular advantage in older

Presented before the Section on General Surgery at the 90th Annual Meeting of the California Medical Association, April 30 to May 3, 1961.

patients, in whom hernia is quite likely to be of the kind under consideration in this communication.

A few details of technique may be worth noting. Consideration should be given to the physical nature of the cord structures in each case. The normal spermatic cord of the usual diameter may be trans-fixed and doubly ligated without concern over unusual tissue necrosis or over the possibility that the spermatic artery or a vein might slip from the ligature. Larger cords and those containing much fat should be broken up into their components and the structures individually ligated.

In many instances after multiple recurrences of hernia, it is not possible at operation to identify the structure of normal cord and the deteriorated structure remaining may be completely and intimately adherent to scar tissue. In such cases the remnants of the vascular supply may be freed and ligated at either end of the inguinal canal, with the intervening portions allowed to remain as part of the floor of the canal.

The proximal end of the cord structure should be severed and ligated at the level of the internal ring and allowed to retract. The distal interruption and ligation—and this is of considerable importance—should be made high in the scrotum and adjacent to the pubic tubercle. This makes for the least possible interruption of the cremasteric circulation. Also in the interest of preserving this accessory circulation, it is unwise to manipulate the distal cord structures unnecessarily or to attempt to withdraw the testis from the scrotum. For the same reason, it is often best to leave the distal portion of a congenital sac in situ rather than to remove it at the risk of disturbing such accessory circulation as may be present.

The inguinal portion of the cord having been removed, one may then proceed to a completely

closed repair of two-layer type, to the use of an implanted prosthesis or to whatever variation the circumstances suggest.

We have used the method described in 14 cases. Division of the cord structures was resorted to in cases of previous multiple recurrence of hernia and for repair of large sliding hernias in older persons. The postoperative course is not infrequently characterized by a febrile reaction, usually on the second, third and fourth postoperative days, the temperature sometimes reaching 102° F. There is, however, no concomitant acceleration of the pulse rate or unusual toxicity or malaise. Scrotal redness and edema and moderate pain in the testicle are common. The enlargement of the testicle eventually subsides so that at the end of the second month it is usually of normal or slightly less than normal size. In other instances the postoperative course is entirely that to be expected after simple repair of an inguinal hernia. In our experience the stay in hospital and the postoperative period of disability are no longer after the operation described than after conventional operation for the purpose. Wound infection developed in one case. One patient had recurrence, through the femoral canal. One patient had pronounced testicular atrophy.

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CASE REPORTS

Detection and Treatment of Cardiac Arrest in the Home

LEONARD M. LINDE, M.D., Los Angeles

IN THE PAST FEW YEARS, numerous descriptions of successful cardiac resuscitation have been reported.¹ Recently, methods of cardiac massage without opening the chest have been developed² which should permit cardiac resuscitation outside of a hospital setting. Successful pulmonary resuscitation has been facilitated by spread of knowledge of mouth-to-mouth breathing. This communication concerns successful cardiac and pulmonary resuscitation by the parents of a child in whom complete cardiac arrest and apnea had occurred at home.

REPORT OF A CASE

The patient, a two-and-a-half year old boy, had had a heart murmur and congestive failure from infancy, with repeated episodes of pneumonia. Diagnostic studies revealed a ventricular septal defect, for which operation was performed in April, 1960. After the operation complete heart block necessitated frequent use of an electronic pacemaker. The patient was released from the hospital with prescription of isoproterenol by rectum but returned to the U.C.L.A. Medical Center eight days after discharge because of a 24-hour history of apnea, cyanosis and convulsions associated with repeated episodes of transient cardiac arrest lasting 10 to 20 seconds. Between these episodes, the pulse rate was noted to be around 45 per minute in contrast to the usual rate for this patient of around 60.

Bipolar electrodes were placed directly in the myocardium and an electronic pacemaker was used for about a month. Then isoproterenol, ephedrine and phenobarbital were administered in combination and the pacemaker wires were removed. The patient was discharged, still receiving these drugs, with an Electrodyne Cardiac Monitor Pacemaker (Model PM-65) that gave an audible high-pitched tone with each QRS complex of an electrocardiogram. The pulse interval could be set at a given level with this machine and if this interval were exceeded, as with cardiac arrest, a continuous high-pitched tone

was produced. A special electrocardiographic cable connected the boy and the machine, and the parents were thus warned. The continuous high-pitched sound which occurred with asystole was more than sufficient to awaken those in the household instantly. The parents were instructed in techniques of mouth-to-mouth breathing and closed-chest cardiac massage before the patient returned home.

Discharged in early July, the patient did fairly well for two and one-half months in spite of persistent heart block and slow pulse rate. Then he had a viral infection with fever lasting 24 hours. He was increasingly irritable and the previous regular slow pulse rate became irregular and slower. At 5 o'clock one morning his parents were awakened by the continuous high-pitched alarm of the monitor-pacemaker. They noted that the patient was completely apneic and deeply cyanotic with no palpable or audible cardiac beat. Initial external electronic stimulation was not successful in producing a cardiac beat or femoral pulse. Then, while his mother performed mouth-to-mouth respiration, his father used closed-chest massage according to recently described techniques² and was soon able to palpate a femoral pulse each time he compressed the sternum. The boy's color improved within a few minutes and his parents were able to change to the Electrodyne Pacemaker to achieve external pacing of the cardiac beat. Following this episode, the patient remained in semi-coma for 15 minutes but recovered and cried vigorously on the way to the hospital. Two hours later, he was able to eat a large breakfast and did entirely well for the rest of the day.

The following day, he had two more episodes of complete cardiac arrest, which responded to chest compression and artificial respiration by the medical staff. In each instance, the patient recovered within a few minutes with no apparent brain damage. Cardiac arrest occurred again the next day, but use of an electronic pacemaker with needles placed subcutaneously did not restore the beat.

COMMENT

Restoration of a normal cardiac beat after cardiac standstill or ventricular fibrillation has become a very frequent phenomenon in the operating room. In other instances, well-organized teams have occasionally succeeded in cardiac resuscitation in pa-

From the Department of Pediatrics, University of California School of Medicine, Los Angeles 24.

Submitted May 3, 1961.

tients in other parts of the hospital. Most of the reported cases^{1,2} involved adult patients who had acute coronary occlusion in a hospital setting.

Complete heart block is a rare complication of surgical repairs of the heart and the prognosis is poor. In the present case, the patient's parents were able to initiate a cardiac impulse after cardiac arrest in the home, using mouth-to-mouth pulmonary resuscitation and closed-chest cardiac massage by sternal compression.

Department of Pediatrics, U.C.L.A. School of Medicine, Los Angeles 24.

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False Aneurysm of the Facial Artery

A. J. GHERINI, M.D., Gilroy; and
D. R. HOVDE, M.D., and
C. J. HESSE, D.D.S., Oakland

EXCEPT for one reported by Pettiti and Jennings¹ in 1952, we could find in the literature no report similar to the following case of false aneurysm of the facial artery resulting from a gunshot wound of the face.

REPORT OF A CASE

A 35-year-old man six feet three inches tall and weighing two hundred and twenty-five pounds was admitted to the Veteran's Hospital, Oakland, September 28, 1960, by transfer from another hospital where for two days he had been treated for a gunshot wound received when a .32 caliber revolver accidentally discharged. The bullet had shattered the right mandible, passing through the floor of the mouth and lodging in the left side of the neck posteriorly. The patient had been admitted to the previous hospital shortly after the accident. There, apparently because of considerable bleeding and pronounced facial and intraoral swelling, tracheostomy was done soon after he was admitted. He had received penicillin, streptomycin and chymotrypsin intramuscularly, as well as tetanus toxoid and tetanus antitoxin in adequate dosages.

At the time of admission to the Veteran's Administration Hospital, the tracheostomy tube was in place and the patient answered questions by shaking or nodding his head. Although he was in moderate distress, he was alert and cooperative. There were

areas of decided firm swelling over the right jaw and cheek and in the submental area. No crepitation was noted. A foreign body was palpated just beneath the skin of the lateral aspect of the left side of the neck, toward the back. There was a small puncture wound approximately 1 cm. in length over the lateral aspect of the right jaw. Upon examination inside the mouth an obvious fracture of the body of the right mandible was observed and the first molar tooth was badly shattered. The floor of the mouth and the tongue were swollen and there was considerable ecchymosis. The teeth could not be brought into proper occlusion.

Oral temperature at the time of admission was 101.0° F., the pulse rate 100, blood pressure 140/80 mm. of mercury and respirations 20 per minute. Results of urinalysis and examination of the blood were within normal limits. X-ray films of the chest showed considerable increase in markings in both lungs, with some tendency to patchiness suggesting bronchopneumonia. Roentgen studies of the right mandible showed a decidedly comminuted fracture, with loss of bony substance and numerous tiny opaque foreign bodies scattered in the bone and soft tissue about the fracture. The biggest of the foreign body fragments was approximately a centimeter long and half a centimeter thick. It lay in the soft tissues of the left side of the neck, slightly below and about two centimeters posterior to the angle of the mandible on the left.

The patient was admitted to the Surgical Intensive Care Unit. Penicillin, 600,000 units twice a day and streptomycin 0.5 gm. twice a day were given intramuscularly. On September 29 debridement at the fracture site inside the mouth was carried out, the fracture was reduced and the mandible was immobilized by intermaxillary wiring. As the swelling about the right cheek, neck and face subsided, a small area of swelling approximately 3 centimeters in diameter persisted in the area of the entry of the bullet. By the morning of October 12, a pulsation could be felt and seen in this swollen area. Soon afterward, intra-oral bleeding began from this site. These developments were attributed to false aneurysm due to trauma of the facial artery. With the patient under general anesthesia and with an endotracheal tube in place, the right facial artery was clamped, cut and tied with interrupted sutures of No. 20 cotton. However, due to collateral circulation this did not control the pulsation in the swollen area. It was necessary to open the swollen area and tie off the vessel in several places with 4-0 arterial silk to control the bleeding. The aneurysm was located in this area. Such hemostasis as was obtained at the time of direct opening was obtained by pressure of the assistant's thumbs and fore-

From the Surgical Service and the Dental Service, Veterans Administration Hospital, Oakland 12.

Submitted April 27, 1961.

fingers. No foreign bodies were found. The patient recovered promptly and was discharged on December 19, 1960.

DISCUSSION

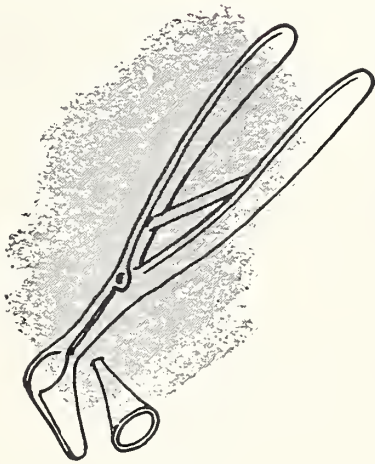
According to Pettiti and Jennings, the terms *false aneurysm* and *pulsating hematoma* are used interchangeably in the literature to designate any arterial tear which results in a blood-filled or clot-filled sac into which arterial blood continues to flow. The enclosure may consist of no more than a partially organized clot bound by muscle, fascia or skin surfaces, or it may be a fibrous, well-organized wall, depending on the site and duration of the lesion. False aneurysms in the region of the face are probably uncommon because the arteries about the face are usually of small caliber. In the large patient in the present case, however, it was noted at the time the right facial artery was ligated and sectioned that the vessel was large. There are reports of false aneurysm occurring in penetrating wounds of the extremities and about the neck where, the arteries being larger and the fascial planes definite, hematomas may more readily form. Trauma is the usual

cause. False aneurysms are rare because as a rule when a large artery is pierced the companion vein is also pierced, making the formation of an arterio-venous fistula considerably more likely than an aneurysm. If there is complete severance of an artery, the ends of the severed artery retract and although a clot forms locally, the contiguity of the blood flow is broken. In light of the generous supply of collateral circulation about the face, it is not surprising at all that the aneurysm in the present case did not cease to pulsate when the right facial artery was ligated and sectioned. Ligating and sectioning the left facial artery, in addition to the right, probably would have been no more effective than was the procedure on the right artery only, for leading into this area from the left facial artery is a vast collateral circulation consisting mainly of the superior labial artery and the inferior labial artery.

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EDITORIAL

Discipline—Voluntary or Mandatory?

THERE HAS BEEN a growing tendency in recent years for inspired critics of the medical profession to treat the misdeeds of a few unscrupulous physicians as though they applied to the many.

Where there is a claim of an insurance bill being padded, or of overtreatment of a patient, or of any of a number of possible transgressions, some elements of our population have seized upon the opportunity to express criticism and to wield a broad brush of tar which coats all within reach.

In truth we do feel a sort of borrowed shame upon learning, as we do from time to time, that a member of our profession has meanly used his knowledge and the trust that ought always be its companion. Yet we know that such sins, whether they offend the laws that govern us all or the special ethics of our profession, are the sins of a very few. Although it would be surprising in any group of 200,000 people or more, no matter what their background or training, if a few did not turn up as scoundrels, we cannot let ourselves take comfort in the knowledge.

Fortunately, in the medical profession there are accepted ethical principles, inbred and inground, which serve as deterrents to all but the few. There are also laws, the laws under which we are licensed to practice and under which that license may be revoked.

Despite these safeguards, there are the gray areas which fall between the legal and the ethical. The physician who allegedly overtreats his patients may claim that he is exercising his best professional judgment. In this case he pits his judgment against that of his peers who believe they would secure comparable results with far less treatment. Who is to bring this man to book? And who catches up with a surgeon who too frequently removes normal tissue in a hospital that does not maintain proper safeguards?

These are only random examples of the need of adequate control of standards of the medical profession.

The major question today is: Who is to control the standards? Who is to handle the discipline?

Over the years, as scientific medicine has advanced, certain norms have been established which are known to and understood by all physicians. Uncomplicated cases of hysterectomy, tonsillectomy and various other procedures have been catalogued as requiring X number of days postoperatively. Where the norm is exceeded in vast degree, a specific case serves as a red flag for all to behold. Where complications are present, the length of time required for complete treatment will invite investigation by other observers.

Here is a simple example of the workings of the staffs of well organized hospitals. Staff review is likely to turn up the abnormal, the unusual.

Add the presence of a tissue committee, which has access to pathological reports, to statistics on normal recovery and the incidence of recurrence, and you have another element of discipline and review within a hospital staff.

Even the granting of staff privileges in a hospital permits the exercise of sound judgment. Where there is any question as to the capacity of an individual applicant, he may be placed on a probationary status until such time as he has proved his own judgment and ability. He may be required to seek consultation or to have his actual performance watched over by experienced seniors during his trial period.

In instances such as these, hospitals and physicians have long cooperated in raising standards to provide protection for patients. Admittedly, some hospitals are not fully effective in these functions but the number of those that fall short is growing smaller.

In our county medical societies we find another line of defense against unwarranted practices. Our

county societies maintain fee complaint committees, insurance committees or mediation committees, all designed to furnish a court of appeal for the patient. While many complaints brought before such committees turn out to be unwarranted, still the patient has been given his day in court, his opportunity to have his complaint heard and reviewed by qualified physicians. In practice, the degree of compliance with the decisions of such committees is extremely high. And the mere knowledge that there are such committees erects a disciplinary barrier against wrong-doing.

At the state level, state medical societies are working jointly with state hospital associations in formulating reasonable and effective standards to provide self-discipline. In one state a so-called integrated medical profession has been established, such as we are familiar with in the legal profession. Here a professional group has police powers over both ethical and legal transgressions, to the point of removing a license from a flagrantly guilty party. This is a new development which has both friends and foes; time alone will tell whether or not it is effective and workable.

In California, two laws are on the statute books which officially put some teeth into the control of evil-doers. One is the Cancer Council law, which establishes a council of experts who are empowered to call for the scientific testing of drugs and techniques in the field of cancer control and therapy and, where indicated, to obtain an injunction against a therapist whose methods are found lacking in scientific value.

The other is a law enacted several years ago, which allows ten or more practitioners licensed by a healing arts board to file a complaint and seek in-

junctive relief against another practitioner licensed by that board.

While these laws connote authority, both are based on the decisions made by licensed practitioners who use their own knowledge and judgment under the legal immunity granted by the state to its agencies.

The recent Governor's Committee on Medical Aid and Health has made several recommendations for the control of abuses. Where these are founded on private rather than public action they are worthy of consideration. Where they are based on the passage of additional legislation which would bring the state more completely into the picture, they are worthy of long and searching study.

Dwight D. Eisenhower, in a recent public address, commented that one advantage of a democracy is that it offers the opportunity for the individual to discipline himself. This truism is particularly applicable in any of the professions where the practitioner is one person giving personal service to another person.

Self-discipline is not only a necessity; it is an opportunity and a privilege. Principles of ethical conduct, standards of behavior, represent personal legal codes without which the public would have no protection and practitioners would have no protection from their fellows.

The medical profession in California has gone a long way in providing self-discipline that is practical and effective. If additional steps are needed at this time—and there will probably never be a time when they are not—the profession should look to its own ranks for the ideas and the leadership needed to produce them. To maintain its traditional authority to govern its own and to keep the privilege of self-discipline, it must exercise them.



The President's Page



Well Guided Is Twice Driven

"The Principle is more than half the whole problem."

—ARISTOTLE

THERE ARE TWO WAYS to judge horse-flesh—by appearance and by performance. Likewise there are two evaluations to that workshop of physicians, the hospital—by physical plant and by medical function. In evaluating the former, the present system has been satisfactory; for the latter, something has been wanting.

This deficiency is unavoidable in the system of the national program of the Joint Commission on Accreditation of Hospitals. However high the motives and principles of a national inspection team, it always elicits the "outsider" reaction in the group being surveyed. It is characteristic of a human group to resist and resent outside pressures. "Interference" by "foreigners" raises hostilities, cements prejudices and thwarts cooperation by the group. This tendency for closing ranks and drawing together reaches its apogee in the crumbling dictatorship that fabricates a war in order to unify a nation and divert attention from miserable situations at home.

Such, to a lesser extent, is the reaction of us all to outside inspections and controls. Such inspection teams often are considered "uninformed," or it is said of them that they "don't understand the local situation," or are from "big centers," or are composed of "paid doctors," etc.

Because of this resentment, there have often been resolutions before medical societies to do away with or modify the hospital accreditation methods of the joint A.M.A., A.H.A. and Colleges of Surgeons and Physicians program. Fortunately, your C.M.A. House of Delegates recognized the problems and diagnosed the defect. It was a matter of not having a method of judging the actual performance of doctors at the local level.

The National program does adequately evaluate the physical facilities of the hospital. So also apparently that part of services that is the "hotel part" of the institution. It is in the subtleties of professional services, usage and quality control that "out-of-staters" just can't get to the heart of the problem, no matter how they try.

Realizing this, our C.M.A. decided that at this level of hospital evaluation physicians and hospitals cannot be driven. Instead they must, at the local and regional level, be informed of the problem, guided in its analysis, concerned with its importance and participate in its solutions.

Thus, two socially responsible organizations, the California Hospital Association and the California Medical Association have mutually established rules in our state—the "Guiding Principles of Hospital-Physician Relations." These will permit a delicacy and subtlety in the evaluation of professional competence that are impossible to obtain except by physicians from the region.

It was with much pride that we announced to the press at the recent C.H.A. state meeting the remarkable feat that has resulted in all hospitals in San Diego County enrolling for receiving the C.M.A. inspection team. These teams of dedicated, selfless men, donating their time and abilities to a truly important program, are to be greatly admired. The participating medical staffs, learning the principles and being guided by them, will flourish. More important, the publication and the application of these principles are concrete evidence of medicine's acceptance of the responsibilities that go with the privilege of self-discipline.

Have you asked that your staff and hospital enroll?

Wanda T. Bristol M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 473rd Meeting of the Council, Los Angeles, Biltmore Hotel, September 23, 1961.

The meeting was called to order by Chairman Sherman in Conference Room No. 2 of the Biltmore Hotel, Los Angeles, on Saturday, September 23, 1961, at the hour of 10 a.m.

Roll Call:

Present were President Bostick, President-Elect Wheeler, Speaker Doyle, Vice-Speaker Heron, Editor Wilbur and Councilors MacLaggan, Wilson, Todd, Quinn, O'Neill, Kirchner, O'Connor, Ham, Rogers, Dalton, Murray, Davis, Miller, Sherman, Campbell, Morrison, Anderson and Teall. Absent for cause, Secretary Hosmer and Councilor Kaiser.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Marvin, Klutch, Tobitt and Bowman, Doctors Batchelder and Miller and Mrs. Griffith of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California; county society executives Scheuber of Alameda-Contra Costa, Field and Dalbec of Los Angeles, Brayer of Riverside, Dochterman of Sacramento, Donmyer of San Bernardino, Nute and Burris of San Diego, Neick of San Francisco, Brown of Sonoma, Rideout of Butte, Glenn, Grove of Monterey, Blankfort of Marin, Monnich of San Joaquin; Dr. Malcolm Merrill, State Director of Public Health; Dr. Daniel Lieberman, Deputy Director of Mental Hygiene; Mrs. Eunice Evans, Deputy Director of Social Welfare; Dr. T. Eric Reynolds and Messrs. Thomas O'Dea and Webb Burke of California Physicians' Service; Dr. Richard Miller, president of Pasadena Medical Society; Dr. Packard Thurber, Jr.; Dr. Thomas Hanegan, president of Orange County Medical Association; Doctors Gerald W. Shaw, Eugene F. Hoffman, Donald Harrington and others.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 472nd meeting of the Council, held August 19, 1961, were approved.

2. Membership:

(a) A report of membership as of September 20, 1961, was presented and ordered filed.

(b) On motion duly made and seconded, 26 delinquent members whose dues have now been paid were voted reinstatement.

(c) On motion duly made and seconded in each instance, 14 applicants were voted Associate Membership. These were: Vera B. Fryling, Louis F. Saylor, Alameda-Contra Costa County; Aida Therese Sereno-Berlese, Fresno County; Olga Daiber, Victor J. Fish, John Martin Hiss, Jr., Arthur Wexler Silver, William Gaines Slate, Los Angeles County; Robert T. Gardner, Sacramento County; Eugene G. Miller, San Francisco County; George L. Harper, Donald Hoyt, Daniel B. Leiva, San Luis Obispo County; William Gentry Dick, San Diego County.

(d) On motion duly made and seconded in each instance, four members were granted Retired Membership. These were: Waldo Frederick Brinkman, Gerhard Danelius, Jerome W. Shilling, James Gatrell Ware, Los Angeles County.

WARREN L. BOSTICK, M.D.	President
OMER W. WHEELER, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
IVAN C. HERON, M.D.	Vice-Speaker
SAMUEL R. SHERMAN, M.D. . . .	Chairman of the Council
RALPH C. TEALL, M.D.	Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D. . . .	Secretary
DWIGHT L. WILBUR, M.D.	Editor
HOWARD HASSARD	Executive Director
JOHN HUNTON	Executive Secretary
General Office, 693 Sutter Street, San Francisco 2 • Prospect 6-9400	
ED CLANCY	Director of Public Relations

Southern California Office:

2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341

(e) On motion duly made and seconded, reductions of dues were voted for nine members now doing postgraduate work.

3. *Public Relations:*

Dr. Malcolm Watts, chairman of the Committee on Public Relations, gave a progress report and recommended that added emphasis be placed on communications. He suggested that outside counsel be brought in to evaluate the entire field of public relations and communications. On motion duly made and seconded, it was voted to approve this recommendation in principle and to refer to the Committee for Emergency Action and the Chairman of the Finance Committee the investigation of details.

On motion duly made and seconded, a vote of confidence to Dr. Watts in his public relations work was extended by the Council.

Attention was called to a new advertisement of California Physicians' Service, in which freedom of choice of physician and the value of the physician-patient relationship were stressed. On motion duly made and seconded, C.P.S. was voted commendation for this type of advertising.

4. *Medical Education:*

On motion duly made and seconded, it was voted to authorize the Committee on Committees to select eight nominees for membership on an expanded finance committee to be established by the Board of Trustees of the California Medical College, such nominees to be members of this Association.

5. *State Department of Public Health:*

Dr. Malcolm Merrill, State Director of Public Health, reported that two public meetings had been scheduled for October on the question of poliomyelitis vaccinations. He asked cooperation in the preparation and distribution of public releases on this subject.

Dr. Merrill also reported that federal Hill-Burton funds for hospital construction would amount to about \$9,000,000 for California this year, an increase of about \$1,000,000 from the preceding year.

Dr. Merrill further reported that one crankcase device for automobiles had already been approved in the anti-smog campaign, that a second would be approved soon and that auto exhaust devices, two of which must be approved by next year, were under study.

6. *State Department of Social Welfare:*

Mrs. Eunice Evans, deputy director of the State Department of Social Welfare, reported that methods have been developed to protect welfare funds against abuses and to protect the vendors of medical

and other services. She also stated that funds for care of needy children were being overdrawn and that some services would have to be curtailed. Food supplements, formerly provided under excess needs funds, would not become a part of the medical care program, she said.

7. *State Department of Mental Hygiene:*

Dr. Daniel Lieberman, deputy director of the State Department of Mental Hygiene, reported on progress being made on development of a master plan for the care of the mentally ill, to be presented to the 1963 Legislature. He requested continuing cooperation with appropriate committees. He also reported that while the census of mental hospitals is about 1,000 patients less than it was a year ago, there is a growing waiting list for the mentally retarded; plans are being completed for construction of one additional state hospital for the retarded on property owned by the state in the San Fernando Valley.

3. *California Physicians' Service:*

Dr. John G. Morrison, board chairman of C.P.S., reported that C.P.S. will retain state employees already carried under medical care prepayment plans and will also make a joint offering with Blue Cross for state employees who will receive financial aid from state funds for such care. He also reported that the contract committee was investigating a comprehensive prepayment plan and that plans are being made for a new offering for the over-65 age group, to replace the present plan.

Dr. T. Eric Reynolds, C.P.S. president, reported that dependents of service personnel will continue to receive medical services under the Medicare program and that fees for these services will continue under the existing structure, which contemplates a \$4,500 average annual income for recipients. It was pointed out that present fees are based on the 1957 Relative Value Studies; on motion duly made and seconded, it was voted to publicize the continuation of this program but to point out that the Association does not approve the use of 1957 tabulations in developing a fee structure but does recognize that this is the basis used by the Department of Defense at this time.

On motion duly made and seconded, it was voted to reaffirm a House of Delegates decision to the effect that only the 1960 Relative Value Studies would be used for future fee discussions.

9. *Report of President:*

President Bostick reported on meetings with management and labor representatives of the steel industry and on several recent appearances before large groups. He also discussed the regional hospital

concept and the possibility of strengthening the Board of Medical Examiners for disciplinary purposes. On motion duly made and seconded, it was voted to continue studying these two subjects through the Judicial Commission and the Liaison Committee to the California Hospital Association.

10. *Report of President-Elect:*

President-Elect Wheeler, reporting for the Committee on Committees, submitted a list of 12 names of ophthalmologists to be submitted to the State Department of Social Welfare as an advisory board on ophthalmology. On motion duly made and seconded, this list was approved.

Dr. Wheeler and Councilor Murray also reported on a meeting held in Fresno with C.M.A. officers and representatives of staff, the county supervisors and state and local health officers, to investigate possibilities for a prepaid health care program for agricultural workers.

11. *Committee on Legislation:*

Mr. Hassard reported that public hearings had been set, starting September 27 in San Francisco, by the Senate Interim Committee on Public Health. These hearings will investigate the possibility of requiring new labeling or other safeguards for specified new and potent drugs. The Association will be represented by Councilor Murray.

12. *A.M.A. Delegation:*

Dr. Wilbur reported that the American Medical Association had created a new committee to review the entire public relations program and procedures of the Association. Dr. Eugene F. Hoffman of California is a member of this committee.

Dr. Wilbur also reported that a committee has been established by the House of Delegates to review the responsibilities, size, terms of office, tenure and other details of the Board of Trustees and that he, Dr. Wilbur, had been named chairman. He asked for suggestions. This committee results from resolutions, including those from California, introduced into the A.M.A. House of Delegates.

13. *Commission on Medical Services:*

Dr. Donald Harrington, chairman of the Commission on Medical Services, reported that the commission had referred to the Committee on Fees the problem of a national professional fee index proposed by the Blue Shield organizations. He also reported that consideration was being given to the subject of comprehensive medical care plans, referred to the commission by the Council.

Dr. Harrington further reported that the commission wished to gather additional information on income ceilings and fee schedules, that the cost of

such studies would run about \$1,500 to \$2,000 and that there was sufficient balance in the commission budget to transfer the needed funds to the Bureau of Research and Planning for the study. It was reported that C.P.S. already has considerable material which would be useful. On motion duly made and seconded, it was voted to approve such a study, utilizing the material already available and transferring funds only if this were necessary.

Dr. Harrington also proposed that a pilot study be made in San Joaquin County to determine the feasibility of providing a prepaid health service for OASI beneficiaries, to allow them a choice of several types of program or no program at all, and to provide deductions from OASI checks for the cost of the program selected. He asked authority, as an individual and not as chairman of the commission, to investigate this proposal to see if such a plan is practical under Social Security, and he asked that the Council provide him with a letter of introduction to Social Security officials in Washington.

After considerable discussion, in which a letter of introduction was denied, it was regularly moved, seconded and voted that Dr. Harrington should be authorized to contact the C.M.A. staff to have it inform him as to the particular individuals in Washington whom he should interview for the purpose of proposing a pilot program in San Joaquin County.

14. *Finance Committee:*

Chairman Teall of the Finance Committee presented condensed balance sheets for the Association and the Trustees of the C.M.A. as of August 31, 1961, and a statement of income and expenditures for August and the two months ended August 31, 1961. These were reviewed and ordered filed.

15. *Speakers' Bureau:*

Dr. Teall gave a progress report on the Speakers' Bureau and its activities to date in preparing material for both statewide and local use.

16. *Bureau of Research and Planning:*

Chairman Gerald W. Shaw of the Bureau of Research and Planning, presented two reports, one in response to Resolution No. 58 of the 1961 House of Delegates relative to the supply of physicians in California and one on the costs of hospitalization. On motion duly made and seconded, it was voted to refer both reports back to the House of Delegates and to make them available for publication.

Dr. Shaw reported that the Bureau had been requested to make a study of appropriate compensation for physicians engaged in part-time industrial health work. Such a study would require an unspecified amount of additional funds. No action was taken.

17. *Annual Meeting of County Officers:*

Dr. Malcolm Todd reported that plans for the 1962 Conference of County Society Officers call for a two-day meeting on February 17 and 18, to include a discussion of the quality of medical care. Those to be invited would include the president, president-elect, secretary, one delegate and two key committee chairmen. Dr. Shaw had earlier suggested that the grievance or review committee chairman be one of the latter. On motion duly made and seconded, it was voted to approve the plans made for this meeting.

18. *Commission on Community Health Services:*

Councilor MacLaggan, chairman of the Commission on Community Health Services, reported that the hospital liaison committee had developed plans for completing a county-wide survey of hospitals in a two-day period and that the first of these programs would be carried out immediately preceding the annual meeting of the California Hospital Association, where Dr. Bostick could present an up-to-the-minute report.

19. *Medical Practice Cost Accounting:*

Dr. Winston Hall, president-elect of the San Diego County Medical Society, requested action on a 1959 House of Delegates resolution asking for a cost accounting study of the cost of conducting a medical practice. It was agreed that staff members should pursue this subject.

20. *Legal Department:*

Mr. Hassard reported on the incorporation of California Medical Education and Research Foundation as a nonprofit organization which would qualify for receipt of tax-deductible grants for qualified research projects. By-laws must be developed and he suggested that the voting members of the corporation be the members of the Council and that a board of directors of seven be appointed to include the chairman of the Finance Committee and the chairman of the Bureau of Research and Planning. On motion duly made and seconded, these proposals were approved.

Mr. Hassard also reported that county activities covering closed-chest resuscitation procedures varied widely from one area to another and that uniformity was desirable. It was moved, seconded and voted to refer this to the appropriate scientific committee or section for study and report.

Mr. Hassard further reported that the Interim Committee on Judiciary of the State Assembly will meet to review the subject of professional corporations.

21. *Commission on Professional Welfare:*

Chairman Kirchner of the Commission on Professional Welfare presented an article on informed surgical consent which had been prepared for the commission for publication. On motion duly made and seconded, it was voted to approve the article and to recommend its publication.

22. *Commission on Cancer:*

Councilor Davis, chairman of the Commission on Cancer, reported that a film on carcinoma of the rectum had been prepared by the American Cancer Society and was available for showing. On motion duly made and seconded, it was voted to approve the showing of this film to selected audiences.

Dr. Davis also reported that Dr. David Wood is requesting the Department of Health, Education and Welfare to provide funds for a program of training employees of tumor boards. On motion duly made and seconded, it was voted to approve such a training program and to support the request for funds.

23. *Scientific Activities:*

Dr. Bostick, as chairman of the committee to review the recommendations of the earlier ad hoc committee on scientific activities, recommended against a proposal to hold an evening meeting, open to the public, during the Annual Session. On motion duly made and seconded, it was voted to approve Dr. Bostick's recommendation.

24. *C.M.A. Newsletter:*

Dr. Bostick suggested that a committee be appointed to review the publication of *Newsletter* and to make recommendations for the future. Such a committee, he said, should be appointed jointly by the Committee on Committees and the Committee on Public Relations.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:00 p.m.

SAMUEL R. SHERMAN, M.D., *Chairman*
JOHN HUNTON, *Acting Secretary*

AMENDMENTS TO CONSTITUTION

Amendments to the Constitution of the California Medical Association are required to lie on the table for one year before being voted upon. Seven proposed amendments to the Constitution were introduced in the 1961 House of Delegates. Under the terms of the Constitution, these were subject to review by the Reference Committee in the 1961 House of Delegates and will also be reviewed by Reference Committee No. 4 in the 1962 House before being voted upon in that session.

In some instances the Reference Committee suggested that proposed amendments to the By-Laws, which need lie on the table only twenty-four hours, also be deferred until 1962 because of their association with constitutional amendments on the same subject. In the section on By-Law Amendments following this section, such deferral will be noted.

The following Amendments to the Constitution were offered in 1961, all of them placed on the table for definitive action in 1962.

CONSTITUTIONAL AMENDMENT No. 1

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Article I, Section 5, of the Constitution of the California Medical Association shall be amended, by adding a new sentence at the end of the present section reading as follows:

"Notwithstanding the foregoing, one charter may be issued to a component society that is not limited as to geographical area or which overlaps the area covered by one or more existing component societies.";

and be it further

Resolved: That Article II, Part B, Section 10, be amended by deleting the word "ten" in the first sentence of the section and substituting therefor the word "eleven" and by adding at the foot of the section the following language: "District No. 11, comprising such areas as may be encompassed by a component society chartered in accordance with the terms of Article I, Section 5, of this Constitution, relating to the issuance of charters in excess of one in any county."

CONSTITUTIONAL AMENDMENT No. 2

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Article III, Part B, Section 10, of the Constitution of the C.M.A. shall be amended

by adding the following sentence as a separate subparagraph of said section:

"District No. 11, consisting of any society which is not limited as to geographical area, or the area of which overlaps the area covered by one or more existing component societies; such society and its members shall not be considered to be members of any other councilor district."

CONSTITUTIONAL AMENDMENT No. 3

Author: James MacLaggan.

Representing: San Diego County.

Resolved: That Article III, Section 2, of the Constitution, which now reads:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates."

is hereby amended to read as follows:

"As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of one delegate."

CONSTITUTIONAL AMENDMENT No. 4

Author: Los Angeles delegation.

WHEREAS, the alternate delegates are duly elected representatives of the physicians in their districts; and

WHEREAS, the wishes of the physicians in a district will be best represented by a vote of all of their elected representatives; now, therefore, be it

Resolved: That the Constitution of the California Medical Association be amended as follows:*

ARTICLE III—Government of the Association

Part A—House of Delegates

Section 1—Composition. (b) *Alternate Delegates elected by members of component societies and seated in the place of absent delegates*, Present (b), (c) and (d) to be changed to (c), (d) and (e).

Section 2—Representation. As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates *or Alternate Delegates*.

Section 3—(Alternates) *Alternate Delegates*. (Alternates) *Alternate Delegates* shall be elected, as

*Language deleted shown in parentheses; new language shown in italics.

specified in the By-Laws, in the same manner as delegates are elected. One Alternate *Delegate* shall be seated in place of each delegate absent or disqualified for failure to attend meetings or other cause.

Section 4—Terms of Delegates and (Alternates) *Alternate Delegates*. Delegates and (alternates) *Alternate Delegates* shall serve for two or three years as each component society may determine. One-half or one-third, as the case may be, of the allowed number shall be elected each year.

Section 5—Quorum. A majority of the authorized number of delegates *or alternate delegates seated in their places* shall constitute a quorum.

Section 11—Election of Councilors. District councilors shall be elected by vote of the delegates *and Alternate Delegates* from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a district councilor has been selected, his name shall be submitted to the House by the Chairman of the Delegation from the district, and (1) if there is no challenge by any delegate or *Alternate Delegate seated in place of a delegate* then the speaker shall declare his election completed, and (2) if any delegate or *Alternate Delegate seated in place of a delegate* shall challenge the election on any ground, including fitness of the nominee of the district to serve as a district councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the president, president-elect and one delegate, appointed by the speaker, from the councilor district involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee shall be ineligible to serve as the district councilor and the delegates *and Alternate Delegates* from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the speaker.

CONSTITUTIONAL AMENDMENT No. 5

Author: Alameda-Contra Costa delegation.

WHEREAS, under the present Constitution of the California Medical Association, Associate Members are not eligible for leave of absence for either illness or postgraduate study; and

WHEREAS, the financial burden is as great on an Associate Member as on an Active Member under these circumstances; now, therefore, be it

Resolved: That Article IV, Section 3 of the C.M.A. Constitution be amended to read: "The Council, on recommendation of a component society, may grant leaves of absence to active *and associate members* who are seriously ill, etc. . . ."

CONSTITUTIONAL AMENDMENT No. 6

Author: Jerome Klingbeil.

Representing: Los Angeles County (Long Beach).

WHEREAS, a more even and democratic balance must prevail in the California Medical Association and that no county society should have the potential to exceed 50 per cent of the state association membership; and

WHEREAS, when a county medical society encompasses such territory and has a membership larger than a great majority of state medical associations, they cannot properly represent or govern their highly dispersed area groups with widely divergent economic, social, and public relations problems; and

WHEREAS, in such large unwieldy societies effective communication between the governing officers and the members represented is often inadequate and occasionally nonexistent; and

WHEREAS, the strength of organized medicine is most effective when broad participation of the medical profession at a local level is implemented; and

WHEREAS, in large county societies inequities tend to arise in outlying component districts in regard to insurance, legal matters, fees and available facilities; and

WHEREAS, in such large county societies, problems of the peripheral area groups regardless of acuteness or degree of local need often must be ignored or deferred to the routine mechanics of day-to-day business application; and

WHEREAS, precedence for district autonomy within a geographic county area has been established elsewhere; and

WHEREAS, there is no mechanism existing in the present Constitution and By-Laws of the C.M.A. to allow large district components of county societies to become direct component parts of the C.M.A.; now, therefore, be it

Resolved: That the California Medical Association initiate changes in its Constitution and By-Laws which will permit any established district of a county society to withdraw from that county soci-

ety and become a direct component part of the California Medical Association; and be it further

Resolved: That the California Medical Association amend its Constitution and By-Laws as follows:

A. ARTICLE I, Section 4—Definition of Component Societies

Component societies include all county medical societies (which may cover one or more counties) or any established component district of at least 300 members of a county society which has exercised option to withdraw from that county society and set up a separate component society, heretofore or hereafter, chartered by this Association.

B. ARTICLE I, SECTION 5—Component Society Charters

Charters to component societies may be granted and revoked as hereinafter prescribed, subject to the limitation that only one charter may be outstanding at any one time in any county except where an established component district of at least 300 members of a county society has elected to be a separate component society.

BY-LAW AMENDMENTS

Several proposed amendments to the By-Laws introduced in the 1961 House of Delegates were, on recommendation of the Reference Committee and vote of the House, deferred for consideration until 1962. These are shown here as introduced in 1961 and as identified, numerically, in the 1961 meeting.

The Reference Committee also suggested that a special committee be established, to review all such deferred amendments. This committee, which has been established by the Council, will review all amendments to the Constitution and the By-Laws which relate to the structure of the Association. Where a By-Law amendment has been referred to this special committee, this referral is noted at the foot of the amendment.

Shown below are all amendments to the By-Laws introduced in 1961 and deferred for action in 1962.

BY-LAW AMENDMENT No. 1

Author: Samuel R. Sherman.

Representing: The Council.

Resolved: That Chapter II, Section 3(b) of the By-Laws of the California Medical Association shall be amended by inserting after the second sentence of said Section 3(b) a new sentence to read as follows:

"A physician and surgeon licensed by the State Board of Osteopathic Examiners on or before Sep-

C. ARTICLE III, SECTION 7(a)—Issuance and Revocation of Charters

The House of Delegates shall issue charters to medical societies of any county, any component society of at least 300 members which has exercised its option to become autonomous or to any group of counties deemed eligible which have made proper application therefor.

CONSTITUTIONAL AMENDMENT No. 7

Author: Ian Macdonald.

Representing: Los Angeles County.

Resolved: That Article III, Part A, Section 3 of the Constitution of the California Medical Association shall be amended to read as follows:

"Section 3—Alternate Delegates. Alternate delegates shall be elected as specified in the By-Laws in the same manner as delegates are elected; one alternate delegate shall be elected for each two delegates of a component society, and alternate delegates shall be seated in place of any delegate absent, or disqualified for failure to attend meetings, or other cause."

tember 30, 1962, who holds a degree of Doctor of Medicine issued to him by the College of Osteopathic Physicians and Surgeons (or its successor), and whose license to practice medicine and surgery is unrevoked and unsuspended, is eligible for election to active membership in a component society. However, in the event that a charter is outstanding to a state-wide component society, none of such persons shall be permitted to join any component society other than the state-wide component society, without the express consent of such state-wide society."

ACTION: *Deferred for action until 1962 in conjunction with Constitutional Amendments No. 1 and No. 2.*

BY-LAW AMENDMENT No. 6

Author: James MacLaggan.

Representing: San Diego County.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis of one Delegate for each component society plus one Delegate for each 75 active members or major fraction thereof and that an automatic review of the size of the House of Delegates shall be made every six years by the Council of the California Medical Association and that to accomplish this, Chapter V, Section 2, of the By-Laws which now reads:

"Commencing with the 1952 regular session of the House of Delegates, each component society

shall be entitled to one delegate for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; providing, however, that each component society shall be entitled to a minimum of two delegates."

is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate plus one additional delegate for each 75 active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; and that every six years subsequent to 1963 the Council of the California Medical Association shall automatically review the size of the House of Delegates and make appropriate recommendations."

ACTION: *Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 15.*

BY-LAW AMENDMENT No. 10

Author: Los Angeles delegation.

WHEREAS, all the delegates do not attend the caucus of the district delegation; and

WHEREAS, the alternate delegates are expected to be oriented and prepared to vote on all matters coming before the House of Delegates; and

WHEREAS, the interest of the alternate delegates will be greatly stimulated by being allowed to actively participate in the decisions of the district delegation; and

WHEREAS, such increased interest on the part of the alternate delegates will be advantageous to all physicians in California; now, therefore, be it

Resolved: That the By-Laws of the California Medical Association be amended as follows:*

CHAPTER V—House of Delegates

Section 1—Secretaries of Component Societies to Furnish Lists of Delegates and (Alternates) *Alternate Delegates*. Each component society shall elect the number of delegates and (alternates) *alternate delegates* to which the component society is entitled. At least sixty days prior to the next scheduled session the Secretary of each component society shall forward to the secretary of the Association, on forms provided by the Association, the names and addresses of these delegates and (alternates) *alternate delegates*, and shall certify thereon the terms of service of each individual.

Section 2—Representation. Commencing with the 1952 regular session of the House of Delegates, each

component society shall be entitled to one delegate *or alternate delegate* for each fifty (50) active members or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of two delegates *or alternate delegates*.

Section 3—Limitations on Seating of Delegates and *Alternate Delegates*. Only duly elected delegates or (alternates) *alternate delegates* may be seated at any session of the House of Delegates, unless the secretary of the Association has been given due notice of substitution at least fifteen (15) days in advance of the session.

Section 4—Disqualification of Delegates or (Alternates) *Alternate Delegates* for Absence From a Session. Any delegate absent without good cause from two or more consecutive meetings of the House of Delegates, and who has failed to give fifteen days' notice to the secretary of the Association of his inability to be present, shall thereupon be disqualified as a delegate and, in addition, ineligible for reelection as a delegate or (alternate) *alternate delegate* for three years immediately succeeding the expiration of his term: except that the Committee on Credentials may excuse absence on presentation of good cause therefor.

Section 5—Notification of Delegates and *Alternate Delegates*. The secretary of each component society promptly shall notify in writing each delegate and alternate *delegate* immediately after his election to such office, and shall expressly direct each delegate's and (alternate's) *alternate delegate's* attendance to the provisions of Section 4 above.

Section 6—Qualifications of Delegates and (Alternates) *Alternate Delegates*. At least three (3) years' active membership in good standing in the component society immediately preceding election shall be required for election as delegate or alternate *delegate*.

Section 10—Duties of Credentials Committee. The secretary of the Association shall supply the Committee on Credentials with the necessary information concerning the membership of the House of Delegates.

The secretary shall give this committee a list of component societies, showing the total membership as of September 1 of the preceding year. This committee shall ask each delegate and alternate *delegate* to present his written credentials, but shall accept the official written list submitted by the secretary of any component society; provided that such written list be sent to the secretary of the Association at least fifteen days before the beginning of the annual session.

*Language deleted shown in parentheses; new language shown in italics.

The committee shall make a written report to the House of Delegates of the delegates and (alternates) *alternate delegates* entitled to membership therein.

Section 12—Loyalty. The Committee on Credentials shall require each delegate and alternate *delegate* who desires to be seated as a member of the House of Delegates, to subscribe to the oath or affirmation in the form required for officers under Section 3 of Chapter XIII. In the event of refusal to subscribe to such oath, the Credentials Committee may at its discretion refuse to include such person in its written report to the House of Delegates designating the delegates and (alternates) *alternate delegates* entitled to membership therein. Any person refused a seat by action of the Credentials Committee shall have the right to appeal to the House and by majority vote the House may overrule the Credentials Committee and seat such person as a delegate.

CHAPTER VIII—Election of Officers: Terms

Section 6—Election of District Councilors in Districts Having One Councilor. At least twenty-four hours prior to the second meeting at each annual session of the House of Delegates the delegates and *alternate delegates* from those districts in which councilor vacancies are about to occur shall separately meet, and in each district the delegates and *alternate delegates* shall elect a chairman and a secretary. At such caucus the delegates and *alternate delegates* in each district shall by nomination, secret ballot and majority vote of the delegates and *alternate delegates* present elect a district councilor from such district to serve for the ensuing term. The chairman of the district delegation shall then report at the second meeting of the House of Delegates the results of the election, and when such report is made the member elected shall thereupon assume office as a district councilor. The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent by the delegates and *alternate delegates* from the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each annual session. In the event that at any district caucus no person receives a majority vote for district councilor after repeated ballots, the chairman of the caucus shall report such fact at the second meeting of the House of Delegates and shall also report the names of all nominees submitted to the caucus, whereupon the House of Delegates shall proceed to elect from such nominees the district councilor from such district. *The alternate delegates shall have a vote on all actions taken by the caucus meeting of the district delegation.*

Section 6.5—Election of District Councilors in Districts Having More Than One Councilor. Immediately on the adoption of this section, and in succeeding years at least twenty-four hours prior to the second meeting at each annual session of the House of Delegates, the delegates and *alternate delegates* from those districts in which more than one councilor vacancy exists or is about to occur shall separately meet and in each such district the delegates and *alternate delegates* shall elect a chairman and a secretary. *The alternate delegates shall have a vote on all actions taken by the caucus or meeting of the district delegation.*

At the first such caucus in each such district, the aggregate number of vacancies existing shall be divided into Offices No. 1, No. 2 et seq. with Offices No. 1, 4 and succeeding increments of three carrying an initial term of one year and thereafter terms of three years; with Offices Nos. 2, 5 and succeeding increments of three carrying initial terms of two years and thereafter terms of three years; and with Offices Nos. 3, 6 and succeeding increments of three carrying initial terms of three years and thereafter terms of three years. Where new offices are created under the terms of Article III, Part B, Section 9(a) of the Constitution, each such new office shall be numbered serially with those already existing and shall carry an initial term extending to the same date as has previously been established for offices in the same numerical sequence, thereafter a term of three years.

Nominations shall then be received for each individually numbered office in which a vacancy exists, and in each instance where there is more than one nomination election shall be by secret ballot and majority vote of the delegates and *alternate delegates* present and voting. The chairman of the district delegation shall then report to the House of Delegates the results of the election, and when such report is made, the members elected shall thereupon assume office as district councilors, subject to the provisions of the Constitution and By-Laws.

At the second and succeeding caucuses the delegates and *alternate delegates* in each such district shall by nomination, secret ballot and majority vote of the delegates and *alternate delegates* present and voting, elect district councilors for each individually numbered district councilor office from such district for which a vacancy is about to occur, and the chairman of the district delegation shall report at the second meeting of the House of Delegates the results of the election, and when such report is made, the member or members elected shall assume office as a district councilor or district councilors, subject to the provisions of the Constitution and By-Laws.

The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent of the delegates *and alternate delegates* of the district fixing time and place, be fixed by the speaker and announced at the first meeting of the House of Delegates at each Annual Session; except that on the adoption of this section the speaker shall immediately announce a time and place for the immediate caucus of each district that is at the time of said adoption, entitled to more than one district councilor.

In the event there are more than two nominees at any district caucus for any of the individually numbered offices of district councilor in said district and none of such nominees receives a majority of the votes cast on the first ballot, the nominee receiving the smallest number of votes on such ballot shall be eliminated and a second ballot shall be taken on the remaining nominees, such process to continue until one such nominee shall receive a majority of the votes cast.

ACTION: *Referred to special committee for study.*

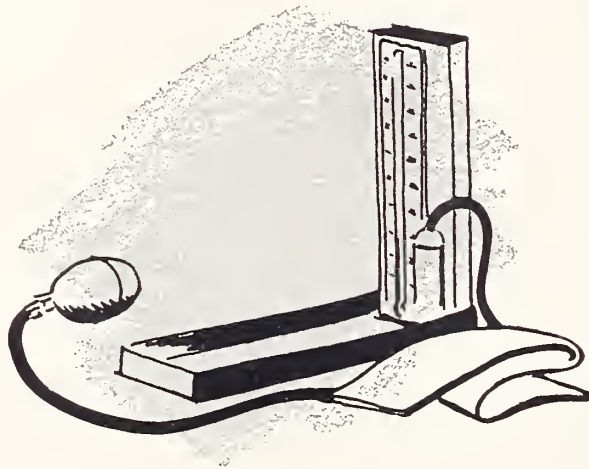
BY-LAW AMENDMENT No. 15

Author: Los Angeles delegation.

Resolved: That the membership of the House of Delegates of the California Medical Association be computed on the basis for each component society of one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate, and that to accomplish this, Chapter V, Section 2 of the By-Laws, is hereby amended to read as follows:

"Commencing with the 1963 regular session of the House of Delegates, each component society shall be entitled to one delegate for each one hundred active members, or major fraction thereof, according to its membership as of the first day of September of the preceding year; provided, however, that each component society shall be entitled to a minimum of one delegate."

ACTION: *Referred to special committee for study, together with Constitutional Amendment No. 3 and By-Law Amendment No. 6.*



Relationship of Occupational Medicine to Private Practice

THERE CAN BE no real distinction drawn between the work of physicians in occupational medicine and that of private practitioners. Every physician, whether in private practice or in occupational medicine, must at some time apply principles of occupational medicine in the treatment of his patients. In the future all physicians will be called upon more and more to practice rehabilitation or some other phase of occupational medicine.

The total adjustment of an individual to his health and environment should be of equal interest and importance to men in occupational medicine and those in private practice. These two branches of medicine should work as a team toward a common goal. Private physicians and physicians in occupational medicine have a common responsibility for bringing the benefits of medicine to the "total man" or the "whole man" in relation to the community in which he dwells. Every medical history on a private patient should include the questions, "Where do you work?" and "What do you do?"

Preventive medicine is the largest single benefit received by the employee through occupational medical practice.

The most important preventive measures are the various physical examinations in industry, which include: Pre-placement, periodic or annual, post-illness and special examinations.

By reporting to his private physician for correction of any defects detected, the employee improves his health and increases his longevity, bringing long-range benefits to his family and community. The private physician benefits by referral of a patient to him soon enough in many instances to prevent irreparable damage.

The periodic or annual physical examination is to counsel the employee throughout his working career in matters that will help him to improve or maintain health, to safeguard the health and safety of others and to discover and control the effects of possible unhealthful exposures in the working environment.

The physician practicing occupational medicine may benefit his employer and the community by keeping the maximum number of workers functioning at an optimum level of efficiency, and by guiding the employee in the correction of defects by using the services of private practitioners in his community. Approximately 50 per cent of employees who are examined each year are found to have defects requiring correction and are referred to their private physicians and dentists.

Close cooperation between physicians in occupational medicine and those in private practice can help to maintain smooth patient relationships in difficult situations involving sick leave and other benefit plans in industry.

Plant physicians frequently examine workmen returning to the job after a serious illness. The plant physician usually has the final responsibility for determining the patient's physical limitations as they relate to his placement on the job, since he is in a better position to understand the job requirements, working conditions or occupational hazards in a given plant. He is also aware of the number of light-duty or modified-duty jobs available. The plant physician should contact the private physician and supply necessary information on job requirements, working conditions or occupational hazards. The private physician is then in a better position to discuss with his patient the need for further treatment and observation before the patient returns to work.

COMMITTEE ON OCCUPATIONAL HEALTH
CALIFORNIA MEDICAL ASSOCIATION

*This is the second of a series of articles prepared by the Committee on Occupational Health.

NEXT MONTH: ARE YOU UP TO DATE?

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, State Department of Public Health

STATE AND FEDERAL FUNDS totaling \$21,703,218 will be allocated this month by the State Advisory Hospital Council for the construction of community hospital facilities in California.

The state-federal funds, which represent two-thirds of project costs, will be allocated in six categories; general and psychiatric hospitals, long-term care facilities, public health centers, rehabilitation facilities and diagnostic and treatment centers.

Applications for 60 projects at a total cost of \$113,400,000 have been submitted to the Bureau of Hospitals.

Thirty-seven students from 25 medical schools in the United States participated this summer in the State Health Department's third training program.

The students were assigned to 14 bureaus and laboratories, and took part in some 25 specific research and field projects. The training program is supported by grants from the National Institutes of Health and the Federal Office of Rehabilitation.

The department stepped up its environmental radiological surveillance activities shortly after Russia resumed atmospheric testing of nuclear weapons on September 1.

The first trace of fallout in California was noted ten days later. Since that time airborne radioactivity levels have fluctuated considerably. To date, the west coast has received much less fallout than the rest of the country.

The first and best indicator of general fallout levels is the amount in the air as measured by pulling air through filters which are then analyzed for radioactivity. The air measurements are of interest primarily as they are indicative of what food and water will contain later. As long as airborne levels remain low, little additional radioactivity is to be expected in food and water.

In the southeastern part of the United States, where fallout has been heaviest, significant quantities of iodine-131 have been found in milk. As this is perhaps the most sensitive indicator of contamination levels in food, we are intensifying the sampling of milk throughout California to analyze for this particular isotope. On the basis of our air data, we expect levels of iodine-131 in California milk to be far lower than those reported from the southeast.

The U. S. Public Health Service has instituted a program of assigning to a few of the larger state health departments several residents in radiological health. The program has the dual purpose of providing residency training for the assignees, and of strengthening the radiological health programs of the departments to which they are assigned.

Phenylketonuria is now eligible for diagnosis and treatment under the department's Crippled Children Services. It occurs once in every 20,000 to 40,000 live births and is found in either sex and among all races. While the incidence of this disease is rare, its effects are serious. If it is detected early enough, however, it can be controlled by a special diet.

Any child who has a urine test positive for phenylketone bodies, or a sibling of a patient known to have the disease, is now eligible for diagnosis. Treatment services may be provided when the diagnosis has been confirmed at one of the approved medical centers, in accordance with that center's recommendation.

The two centers that are approved in the treatment of children with this condition are the Neurological Diagnostic Center at the University of California in San Francisco and the Neurological Diagnostic Center at Children's Hospital, Los Angeles.

— In Memoriam —

BARNES, WILLIAM HUTT, Chico. Died August 21, 1961, at Banff, Alberta, Canada, aged 84. Graduate of the University of California School of Medicine, San Francisco, 1921. Licensed in California in 1921. Doctor Barnes was a member of the Alameda-Contra Costa Medical Association, a life member of the California Medical Association, and a member of the American Medical Association.

BLOCK, HARRY HILTON, Los Angeles. Died July 28, 1961, in Los Angeles, aged 54, of heart disease. Graduate of the Chicago Medical School, Illinois, 1935. Licensed in California in 1958. Doctor Block was a member of the Los Angeles County Medical Association.

CARROLL, ANTHONY G., Martinez. Died September 11, 1961, in San Jose, aged 62, of bronchopneumonia, and cirrhosis of the liver. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1924. Licensed in California in 1933. Doctor Carroll was a member of the Alameda-Contra Costa Medical Association.

COLTRIN, GILBERT SPENCER, Claremont. Died September 13, 1961, in Claremont, aged 53. Graduate of the University of Rochester School of Medicine and Dentistry, New York, 1934. Licensed in California in 1936. Doctor Coltrin was a member of the San Bernardino County Medical Society.

DeLANCEY, CHESTER ARTHUR, San Rafael. Died September 12, 1961, in Ross, aged 70. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1920. Licensed in California in 1920. Doctor DeLancey was a member of the Marin County Medical Society.

DIEFENBACH, WILLIAM E., La Jolla. Died September 16, 1961, in La Jolla, aged 72. Graduate of the University of Buffalo School of Medicine, New York, 1914. Licensed in California in 1927. Doctor Diefenbach was a member of the San Diego County Medical Society.

FAUST, ROBERT, Sherman Oaks. Died September 23, 1961, in Santa Monica, aged 56, of heart disease. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1928. Licensed in California in 1949. Doctor Faust was a member of the Los Angeles County Medical Association.

GRAMS, L. F. (LA VERNE), Ontario. Died September 25, 1961, in Ontario, aged 49, of heart disease. Graduate of the State University of Iowa College of Medicine, Iowa City, 1945. Licensed in California in 1955. Doctor Grams was a member of the San Bernardino County Medical Society.

GUIDINGER, WILLIAM E., San Pedro. Died August 9, 1961, in San Pedro, aged 70, of heart disease. Graduate of the College of Physicians and Surgeons, Los Angeles, 1917.

Licensed in California in 1917. Doctor Guidinger was a member of the Los Angeles County Medical Association.

HICKS, ROBERT ALAN, Richmond. Died September 16, 1961, in Oakland, aged 58, of pulmonary congestion and edema. Graduate of the University of Michigan Medical School, Ann Arbor, 1930. Licensed in California in 1943. Doctor Hicks was a member of the Alameda-Contra Costa Medical Association.

JANES, DALZIEL O'CONNOR, Long Beach. Died August 28, 1961, aged 54. Graduate of the College of Medical Evangelists School of Medicine, Loma Linda-Los Angeles, 1930. Licensed in California in 1930. Doctor Janes was a member of the Los Angeles County Medical Association.

LEVINE, SAMUEL, Hayward. Died September 30, 1961, in Hayward, aged 57, of carcinoma. Graduate of the Medical College of Virginia, Richmond, 1935. Licensed in California in 1945. Doctor Levine was a member of the Alameda-Contra Costa Medical Association.

McNIFF, THOMAS PATRICK, Campbell. Died May 6, 1961, aged 46, of coronary occlusion. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1950. Licensed in California in 1950. Doctor McNiff was a member of the Santa Clara County Medical Society.

SHEELEY, FAYE G., Long Beach. Died September 10, 1961, in Long Beach, aged 51, of heart disease. Graduate of the Indiana University School of Medicine, Indianapolis, 1942. Licensed in California in 1952. Doctor Sheeley was an associate member of the Los Angeles County Medical Association.

SKALETAR, EDWARD ALBERT, Los Angeles. Died September 19, 1961, in Los Angeles, aged 62, of acute coronary occlusion. Graduate of Marquette University School of Medicine, Milwaukee, Wisconsin, 1926. Licensed in California in 1926. Doctor Skaletar was a member of the Los Angeles County Medical Association.

SNYDER, CRAYTON CHAMBERS, Pasadena. Died September 21, 1961, in Pasadena, aged 85, of coronary thrombosis. Graduate of the College of Physicians and Surgeons of San Francisco, 1902. Licensed in California in 1904. Doctor Snyder was a member of the Los Angeles County Medical Association.

WILLIAMS, WILLIAM FRANK, Oakland. Died September 8, 1961, in Oakland, aged 65, of cerebral anoxemia. Graduate of the University of California School of Medicine, San Francisco, 1926. Licensed in California in 1926. Doctor Williams was a member of the Alameda-Contra Costa Medical Association.

Howard Christian Naffziger

1884—1961

Editor's Note: Dr. Naffziger was a very distinguished California physician. A native of California, he was largely trained in this state and rose to a position of tremendous influence and importance as teacher and practitioner in the development of his special field of neurologic surgery. He was a pioneer in the West in surgical education and training, and the program he established greatly influenced the careers of hundreds of young surgeons. His influence in positions and organizations of national and international importance raised the stature of medicine in the University of California and throughout the state.

HOWARD CHRISTIAN NAFFZIGER was born in the small mining town of Nevada City, California on May 6, 1884. He died on March 21, 1961 at his home at the age of 76 after a brief illness.

Dr. Naffziger was the only child of Christian Jacob and Lizzie Scott Naffziger. He attended Nevada City High School and graduated from Berkeley High School in 1901. He received his higher education at the University of California at Berkeley, and was awarded the degree of B.S. in 1907, M.S. in 1908 and M.D. in 1909. He then served as intern and resident surgeon at the University of California Hospital. Dr. Naffziger obtained the position of assistant resident surgeon at Johns Hopkins under Halsted, who subsequently was recognized as the founder of a new era in American surgery. At Johns Hopkins, Dr. Naffziger not only received inspiration as a surgeon but came to recognize that Dr. Halsted's residency system for the education and training of young surgeons, now in general use throughout the country, was immensely superior to existing methods. In addition, he became aware of the need for experimental research programs in medical schools and the need to train and develop young men for academic careers in medicine.

Returning to San Francisco Dr. Naffziger joined the faculty of the University of California School of Medicine serving from 1912 to 1951. He was professor and chairman of the Department of Surgery from 1929 to 1947 and was professor and chairman of the Department of Neurological Surgery from 1947 to 1951, when he became Professor Emeritus. He was appointed a Regent of the University by Governor Earl Warren in 1952.

Dr. Naffziger served with the Medical Corps of the United States Army in World War I and was appointed Chief of the Surgical Service at the Letterman General Hospital following his return to San Francisco after the war. In 1919 he rejoined the faculty of the University, and during the same year he married Louise McNear, a member of a prominent San Francisco family.

After accumulating wide experience in every field of surgery, he then limited himself after World War I to neurological surgery, and with Harvey Cushing, was among the very first in America to specialize in this field.

The early years of his professional career were devoted to teaching and working with young men in the development of a first class surgical center. His recognition of the importance of applying basic science to clinical medicine and surgery, and his stimulation of his students toward research resulted in the establishment of the experimental research laboratories at the medical school. He was the first to introduce to the West Coast the surgical residency system as we know it today.

Dr. Naffziger's surgical accomplishments are too numerous to mention. Outstanding was his work on the mechanism of progressive exophthalmos and the surgical method he developed for the prevention of its inevitable blindness. He was honored by an invitation to give the Hunterian Lecture at the Royal College of Surgeons of England on this subject in 1954. He was the first to observe that the radiopacity of the pineal gland could be used as a method of localizing brain tumors by x-ray. The sign which bears his name was developed by him in the application of jugular compression in the diagnosis of certain spinal conditions. He recognized and publicized the scalenus anticus syndrome and devised new operative approaches for many surgical procedures.

Dr. Naffziger served as president of the San Francisco County Medical Society, the California Academy of Medicine, the Pacific Coast Surgical Association, the American Surgical Association, the American Neurological Association, the Society of Neurological Surgeons and the San Francisco Neurological Association. He was a member of the advisory council of the American College of Surgeons, of which he was president and for 16 years a Regent, and founder of its Northern California Chapter. Dr.

Naffziger was a founder of the American Board of Surgery and the American Board of Neurological Surgery, and was chairman of the latter for a ten-year period. He was also a director and trustee of the Franklin H. Martin Memorial Foundation, member of the Western Surgical Association, International Society of Surgery, International Neurological Association, American Association of University Surgeons, Harvey Cushing Society, World Medical Association, Society of University Surgeons, and the Howard C. Naffziger Surgical Society, which was composed of his former residents.

He served in the American Expeditionary Force in France and was a member of the Surgeon General's staff in World War I. During World War II he served on the National Research Council as a consultant for the Office of Scientific Research and Development, and was chairman of the subcommittee on neurological surgery and a member of the surgical committee. He surveyed the surgical services in military hospitals for the Surgeon General of the United States Army in the British Isles from June through August of 1943, and the Mediterranean theater from August to September of that year. He represented the Surgeon General at the first Conference on Penicillin which was held in Tripoli in 1943. In the winter of 1950-51 he served as civilian consultant in the Korean War and later conducted many inspection tours of military hospitals for the Surgeon General in Western Germany and France in 1954 and 1957.

He was awarded a Certificate of Appreciation by the Secretaries of the Army and the Navy in 1943 and served as Senior Civilian Consultant in neurological surgery to the Surgeon General up to the time of his death, and was honorary consultant for the library of the Surgeon General.

Dr. Naffziger served on the editorial advisory boards of six well-known scientific journals in the fields of surgery and neurological surgery. In his devotion to public service, he served as chairman of the Medical Mission to Poland for the Unitarian Service Committee under the auspices of U.N.N.R.A. in 1946. He was chairman of the medical mission to the Philippines under the auspices of the World Health Organization in 1948 and was appointed visiting professor to the National Defense Medical Center and University of Taiwan Medical

School in 1952. He was a member of the American Red Cross Advisory Board and the San Francisco Bay Area Community Chest.

Dr. Naffziger was awarded many honorary memberships and honors, such as Honorary Fellow of the Royal College of Surgeons of England, Fellow of the Royal Society of Medicine of England, and Fellow of the Philippine College of Surgeons. He was elected to honorary membership of eleven scientific societies in this country and abroad. In 1944, the *Journal of Nervous and Mental Diseases* published a Festschrift in honor of his birthday, composed of contributions from colleagues, former students and associates. In 1954, six of the leading national and foreign journals in surgery and neurological surgery published a special issue in honor of his birthday.

Dr. Naffziger was zealously devoted to the cause of medicine, the care of the sick, the education and training of young men and women in medicine, the elevation of the standards of surgery, and the welfare of his country.

Dr. Naffziger's outstanding intellectual characteristic was his ability to perceive the essential features and basic principles at the core of every problem which he faced. He was never distracted by minutiae or inconsequential matters, and his dispassionate analytical deductions led him to valid and meaningful conclusions. It was qualities such as these that led the great British neurologist, Sir Charles Symonds, head of Neurology at the National Hospital, Queens Square, London, to say that if he were personally faced with a complex neurological problem he would turn to Dr. Naffziger for help in preference to all other men in this field. Dr. Naffziger's outstanding personal characteristics were most readily appreciated by his patients, but may not have been so obvious to others unless they were fortunate enough to have been associated with him or to have seen him at the bedside. His true compassion, humanitarianism, sympathetic attitude and strength of character were recognized and valued by his students and colleagues over a period of many decades.

Dr. Naffziger is survived by his wife, Louise McNear Naffziger, and three daughters, Marion Ann Orrick and Jean Louise Thacher of Washington, D.C., and Elizabeth Stern, whose husband is professor of neurological surgery at the University of California at Los Angeles, and by ten grandchildren.



WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION

UNTIL TWO YEARS AGO the Woman's Auxiliary to the California Medical Association had within its organization a committee on Public Relations, even though realistically the entire function of the Auxiliary is to establish good public relations between the medical profession and the nonmedical members of the community by building greater understanding of the objectives and activities of the medical profession. All the major committees of the Auxiliary are devoted to some phase of public relations.

Then two years ago a field not previously stressed was introduced to the membership. It was the place of the Auxiliary and the individual auxiliary member, working outside the well defined framework of the Auxiliary on community projects and in community organizations. It was to this phase of auxiliary work that the Community Service Committee was dedicated. This committee took over the work formerly done by the Public Relations Committee, which was then dissolved.

The theme for this year of the Woman's Auxiliary to the American Medical Association is "Speak Your Beliefs in Deeds." Surely no better way could be found to support this than to "speak our beliefs in deeds of service to our communities through the community service program of our county auxiliaries."

The goals of this committee, as outlined by the National Auxiliary, are two-fold. First, that each member support activities within the community, and second, that each member work within other civic, education and service groups. This year the emphasis will be placed on the promotion of the "Homemaker Services."

The community Homemaker Service is a locally sponsored, nonprofit agency that places trained women workers in homes where illness, disability or

the absence of a parent might disrupt the normal family routine. They take over household tasks such as marketing, cooking, light cleaning and caring for children. Service is part-time only for as long as needed. No nursing care is given by the homemaker.

The committee on Community Service, Woman's Auxiliary to the American Medical Association has completed a 32-page manual designed to assist communities in establishing a Homemaker Service. The new publication titled "How to Plan a Community Homemaker Service," will be available shortly.

We are adding Homemaker Services to our list of community service projects for our county auxiliaries in cooperation with other agencies in the community.

Community service will vary from county auxiliary to county auxiliary depending on the needs of the community it serves. I should like to think an Auxiliary is flexible enough to develop new community service projects when need arises and drop old ones when there is no longer a need for them (of course after consultation with the county medical association).

Service to the community through the medical Auxiliary is the finest way I know to build a bridge of understanding between the physician and the nonmedical community. Each auxiliary member is encouraged to support activities within the community. Each task she performs well, each service she gives willingly brings honor to her Auxiliary and to the medical profession.

MRS. HERMAN H. STONE
*Chairman, Community Service,
Woman's Auxiliary to the
California Medical Association*

INFORMATION

The California Academy of General Practice Its Objectives and Development

THE California Academy of General Practice—with its 3,000 plus members and 30 county chapters—is the largest “special interest” group operating within the membership of the California Medical Association. Because of its considerable influence, its actions are of concern to every physician in the state.

Founded in 1948 as a chapter of the American Academy of General Practice, the group is completely independent of the California Medical Association. It does, however, recognize C.M.A. as the “parent” medical organization and will not consider anyone for membership until he is a C.M.A. member. It intentionally avoids participation in C.M.A. politics or duplication of C.M.A. activities and makes every effort to cooperate with the state medical society’s policies. Medicine, already too splintered, has no room for medical organizations that place their own special interest above those of medicine as a whole.

Objectives

Before the Academy was organized the general practitioner had become a nonentity. If a doctor didn’t specialize, he was a GP. That’s all it required. Specialists had achieved considerable status through their own associations—GP’s had none. No one was interested in developing the family doctor as a person *specifically* trained for a *specific* field. No one was trying to improve his training, let alone encourage anyone to enter the field. There were many instances of wholesale dropping of GP’s from hospital staffs.

These were the conditions which led to the formation of the Academy. Its objectives were to develop a strong and representative organization exclusively for general practice; set and raise standards; improve hospital, public and professional relationships; improve postgraduate opportunities; and encourage general practice as a career. Some of these goals have virtually been achieved; others may take years to reach.

Membership Requirements

Academic entrance requirements are not as stringent as are those of the specialty boards, and 84

per cent of the applicants are ultimately accepted. Remaining a member, however, is another matter. Unlike any other medical group, the Academy elects members for only three year terms. At the end of that time a member must have completed 150 hours of postgraduate work. Last year 47 members were dropped for failure to keep up, and in some years the number has been as high as 100. The vast majority, however, do far more than the required amount of postgraduate work.

In spite of its rigidly enforced requirements, the Academy has had a substantial gain in its total membership. Growing at the rate of close to 200 new members per year it now represents well over 60 per cent of the family physicians.

Scientific Activities

The Academy’s annual meeting is rated as one of the best scientific meetings in the country. It is kept clear of politics and draws from the finest teaching talent available in the United States. Local county chapters hold an additional 200 scientific meetings during the year—so combined with medical school and C.M.A. educational efforts, members have an abundance of excellent scientific programs to qualify for their continuing membership requirements.

Medical Schools

Medical schools have been severely criticized for not having GP’s on their teaching faculties and for not exposing students to general practice. In California, however, the University of California, Stanford, U.C.L.A. and the University of Southern California work in close cooperation with the Academy-sponsored summer preceptorship program. Some 300 students have taken advantage of this program to spend two weeks of their vacation time with a physician in general practice. Such exposure has been responsible for a number of students choosing general practice as a career. Many have returned to practice with their preceptors. The program has been of equal value for weeding out the occasional student who intends to enter general practice but changes his mind after he realizes what is required to be a good GP.

Someday the Academy hopes to see the general practitioner have more of a voice in medical education within the schools. It feels this will come as the standards of general practice continue to rise and as general practice becomes better defined.

Residency Training

The average medical student, looking towards general practice, worries and wonders about the training he may be getting to prepare him to be a

well-qualified GP. While there is, as yet, no complete agreement over what constitutes the best GP residency, a growing number of members feel that if general practice residencies are to attract top caliber students, they must be equal or better than the training programs offered for the major specialties. They feel that the absolute minimum for anyone entering general practice today should be a one-year internship plus two years of a well-organized, well-supervised general practice residency. It has been shown that GP's trained under such programs have no problem with hospital privileges and are able to provide their patients with a wide range of service of excellent quality. This view is supported by the fact that many one-year programs are unfilled, while many of the better, lower pay two-year programs have more qualified applicants than they can possibly consider.

Another encouraging factor is that the residency applicants, in a growing number of cases, are of an exceedingly high quality. In one major university both the top and next to top men in the class are taking general practice residencies despite the fact that in their school a scant 20 per cent of the class is going into general practice. If enough effort is given to quality the matter of quantity will eventually take care of itself.

Hospitals

The Academy has conducted intensive studies of hospital staffs and hospital relationships. One of these completed in 1956 showed that less than 6 per cent of the general practitioners in California had any complaints as to their hospital privileges. This same study repeated this year produced *identical* results. Another study of all California hospitals showed less than 3 per cent had no GP's on their staffs, and this included the university teaching hospitals. This and other studies show that the GP is more than holding his own in hospitals.

The Academy completely supports the Joint Commission on Accreditation of Hospitals, C.M.A.'s Guiding Principles, and has recently sponsored conferences on medical audits in an effort to get them introduced in California. It feels that in many cases hospital controls have been too lax and that there is a great deal of room for staff education and improvement. However, it wants rules to be applied to all physicians on the staff and vigorously opposes hospital regulations which give special privileges to favored groups. Applying this policy to itself, it has been equally quick to oppose some hospitals which have required that GP's on their staff be Academy members.

Members are expected to take part in local hospital affairs and current statistics show that they

are most active. One out of three members serves on hospital committees and 15 per cent hold key roles as chief of staff or head a department. Many of these are in large, metropolitan hospitals where specialists may outnumber GP's.

Public and Professional Relations

Virtually every Academy activity is concerned with improving the public and professional relations of the profession. The Academy distributes a large number of its own publications, publishes a bi-monthly bulletin, and supplies articles for a number of other medical journals. One of its stories published last year on the British Health System as viewed by the GP was reprinted for a circulation of over five million copies.

In a step toward improving interprofessional relationships the Academy recently sponsored a one-day conference on hospital medical audits. The conference was so successful that two more are planned for Los Angeles and San Francisco this November, this time drawing in specialists and hospital administrators.

The Internist as the Family Doctor

The Academy recognizes the value of the internist as a consultant and also the fact that many internists are serving as family physicians. However, it doesn't look upon the internist as a "competitor," realizing that he is often forced into the role of family physician not by choice but because of the relatively large number of internists and the shortage of GP's.

Some internists' groups have run into strong opposition from the Academy over the matter of fees. The Academy supports the basic principle of the California Medical Association that fee schedules, when they exist, must be based on *service* rather than a variety of factors including the physician's experience, overhead and training. The physician should be compensated for his training but this compensation should come when this special training is applied to the patient and not on routine cases where the patient receives no particular benefit by virtue of being treated by a specialist.

Attitude Toward Surgical Privileges

The Academy agrees with the American College of Surgeons that there is room for improving surgical care. It does, however, disagree with the college's methods of going about this. While the Academy fully recognizes the importance of adequate formal training, it insists that standards and supervision must apply to all doctors on the staff, regardless of qualifications. Board certification of a surgeon may give a certain assurance of his ex-

posure to technical training, but unfortunately, it does not insure his integrity. His "certification" is not subject to review nor has it ever been removed once it has been received. A board-certified surgeon may do operations poorly or unnecessarily or do "ghost" operations or split fees just as any other physician may do. He should be subject to the same rules as anyone else.

The Academy does feel that there are some very strong arguments for training the physician so that he will be able to provide his patients with both medical and surgical care for the more frequently seen conditions. Since many conditions can be treated either medically or surgically, the physician who does both is in an ideal position to make a proper diagnosis and to choose the treatment that has the best chance of success.

Who Runs the Academy?

The principal governing body is a Congress of Delegates made up of representatives from county chapters. It is a forum before which the problems of the general practitioner are discussed. One of its chief responsibilities is the election of a president and an 18-man board of directors who have the major responsibility for Academy policies. The board in turn employs a full-time executive secretary as the executive officer of the association. He is assisted by two other employees in carrying out the day to day operations. Five standing committees assist the board: constitution, hospital, education, program and public and professional relations.

Board of General Practice

The Academy, both nationally and in California, has opposed the formation of a board of general practice. The concept of a board violates one of its basic precepts, i.e., each physician should be given the opportunity to demonstrate his competence, and not be judged primarily on the basis of certification or membership in any specialty society. There is nothing to prevent the Academy from accomplishing everything for general practice that a board might achieve—especially in relation to improving standards of general practice residencies. The physician who is well-trained and practices within his limitations seldom gets into difficulties regardless of certification.

The Future of General Practice

The need for more GP's is the most critical problem facing the Academy. Its long range attack on this problem is to concentrate on improving the quality of residency training available. In the meantime it feels that general practice has much on its side. The place of the GP in the hospital has improved considerably; the incomes for GP's have become adequate; the GP is able to exert his full

time skill in the practice of medicine and surgery, and he is winning the respect and confidence of the medical schools through preceptorship programs and serious concentration on postgraduate medical training.

- CLARENCE T. HALBURG, M.D., *Immediate Past President*
- BURT L. DAVIS, *President*
- JOHN A. C. LELAND, *President-Elect*
- WILLIAM W. ROGERS, *Executive Secretary*
- CALIFORNIA ACADEMY OF GENERAL PRACTICE

Nine First Street, San Francisco 5.

Costs of Hospitalization

A Report by the Bureau of Research and Planning

RESOLUTION No. 93, introduced at the 1961 Annual Meeting of the California Medical Association House of Delegates, requested a study of hospital costs and current trends in hospital management. Its primary purpose, as reflected in the "whereas" portions of the resolution, was to differentiate between the costs of hospital and professional services in the spectrum of health care protection in order to provide the medical profession and the public with greater insight into some of the factors contributing to increasing expenditures for health care.

A few statistics will demonstrate the central role of the hospital in the provision and financing of health care services. According to the Department of Commerce, 26 cents, the largest proportion of every dollar spent in 1960 for private health care, went to hospitals.⁶ In California, 1.3 million persons spent over 11.5 million days in acute, short-term, general nonfederal hospitals during a one-year period 1958-1959. The 1.3 million represented 90 per cent of admissions to all types of hospitals and accounted for 30 per cent of all patient days. It has been estimated that the cost to the public of these services was \$438 million, or 58 per cent, of all nonfederal expenditures for hospitalized care. According to *Hospitals*, the average length of stay in

Approved by the Council of the California Medical Association, September 23, 1961.

TABLE 1.—Average Daily Service Charges—U. S. and California

Type of Accommodations	United States	California
Single bed	\$20.00	\$28.70
Two-bed	17.20	24.30
Three-bed	16.00	23.00
Four-bed	15.80	22.30
Five-bed	15.00	22.50
Six or more	15.10	18.80

TABLE 2.—Average Daily Charges in Nonmetropolitan Areas and Range of Charges in Metropolitan Areas of California

	Nonmetropolitan	Range in Ten Metropolitan Areas	
		Low	High
Single bed	\$23.49	\$20.60 (Fresno) to	\$31.10 (S.F.-Oakland)
Two-bed	20.18	19.00 (Stockton) to	32.11 (Santa Barbara)
Three-bed	19.25	16.40 (Stockton) to	26.00 (S.F.-Oakland)
Four-bed	17.09	16.70 (Stockton) to	25.40 (Sacramento)
Five-bed	16.50	16.50 (Stockton) to	25.90 (San Jose)
Six or more.....	17.24	15.50 (San Bernardino, Riverside, Ontario) . to .	26.50 (Santa Barbara)

acute, short-term, general hospitals in California was 6.3 days (7.5 days for all short-term general hospitals) at an average cost of \$38.20 per patient day.²

A 1960 survey for the American Hospital Association of daily service charges alone (room, food, routine nursing care and minor medical and surgical supplies) for adult inpatients among a group of five thousand short-term general and special hospitals in the United States revealed the information presented in Table 1.

The average daily service charges in nonmetropolitan areas of California and the range of such charges among ten metropolitan areas of California were as shown in Table 2.

Nationally, length of stay in general and special hospitals decreased from 13.7 days in 1940 to 9.6 days in 1959—due to advances in medical science. Days in hospital per person (2.8 days) for the total population was about the same in 1959 as in 1940.

The number of patients admitted to all hospitals in the United States has increased from about 10 million in 1940 to more than 23.5 million in 1959; the admission rate rose correspondingly from 76 to 133 per 1,000 population.

One measure of the growth of hospital utilization is the increase in hospitalized births. The number of such births has risen from less than 1½ million in 1940 to more than 4 million annually. The proportion of babies born in hospitals has increased from 56 per cent to about 96 per cent.

With more and more patients being admitted to hospitals for diagnosis and treatment, the number of terminal cases has been rising. They increased from nearly 644,000 in 1949 to over 877,000 in 1958. Deaths in hospitals were 53 per cent of all deaths during 1958, against 45 per cent in 1949.

Although Resolution No. 93 cites the "alarming rate" at which hospital costs have continued to climb, the bureau has learned that some hospital administrators feel that current costs are not now high enough for present and future needs. Many administrators expect hospital costs to rise by 5 to 10 per cent each year (since World War II they have risen about 9 per cent annually).

The facts are that, from 1940 to 1960, rates for room, board and general nursing in general hospitals have more than quadrupled. They have gone

TABLE 3.—Relation of Hospital Cost Increases to Rises in Other Items

	1940	1960	Per Cent Increase 1940-1960
Consumer price index.....	59.9*	126.5	111
All medical care items.....	72.7	156.2	115
Physicians' fees	74.7	145.2	94
Hospital room rates.....	50.4	223.3	343
Prescriptions and drugs.....	83.2	122.8	48
Dentists' fees	70.1	137.3	96

* 1947-49=100.

up almost two and a half times as fast as fees of physicians and dentists, four times as fast as drug prices, and about three times as fast as all items or services in the consumer price index (Table 3).

In answer to criticism from the public, hospital administrators reply that the entire character of the hospital and its role in the provision of medical services have changed radically in the past 20 years, and that the modern hospital has had to adapt itself to meet the demands which both the public and physicians have made upon it. The hospital today is represented as a complex organization providing hotel, laundry and restaurant service besides being pharmacy, clinic, surgery and teaching institution.

Highly specialized equipment is an essential part of the institution. Cobalt, x-ray and artificial heart-lung machines which did not exist years ago, and whose costs may range upward to \$50,000, are commonplace. Eye banks, blood banks and bone banks; facilities such as postoperative recovery rooms and premature nurseries; major ancillary services (one study showed that eleven major ancillary services appeared in 20 per cent more hospitals in 1956 than during 1950)—all are innovations which have contributed to mounting costs. Labor costs have been a major factor. In 1958, 65 per cent of the total operating expenses of hospitals represented the wages and salaries of hospital employees; in 1946 it was 46 per cent.

As the *Report of the Governor's Committee on Medical Aid and Health* states¹:

"The wages and salaries of health workers are likely to play an even more important part in future health costs as their traditionally low wages rise until they approach those of comparable non-medical occupations."

Thus, increasing levels of wages, increasing union-

ization, and competition with other industries for manpower exert their pressure on the upward movement of costs. And accompanying rising labor costs has been the reduction in hours worked by hospital personnel. The 70-hour split-shift week has been reduced to about 42 hours, resulting in more hospital employees. Also a greater variety of paramedical personnel has developed as the technology of medicine has become more complex and refined. *Hospitals* magazine reports that the number of paid employees averages about 2.2 per patient day—100 per cent more than in the late thirties, and 47 per cent more than in 1947.

The components of the hospital costs of a 300-bed hospital, selected in one study as representative of the experience of 108 general hospitals in a large metropolitan area,⁴ reveal that:

- In 1937, 17.5 cents of each dollar went toward defraying hospital nursing services; such services accounted for 25 per cent of all expenditures in 1959.
- In 1937, 6 per cent of hospital expenditures went for pharmacy and medical supplies as against 10.5 per cent in 1959.
- In 1937, x-ray and laboratory represented 6.5 per cent of expenditures, as compared with 9.5 per cent in 1959.
- In 1937, operating room, delivery room and other professional services accounted for 8 per cent of expenditures as against 13 per cent in 1959.
- In 1937, 10 per cent of all expenditures were for administration and general services as compared with 15 per cent in 1959.

While the foregoing represent areas of increased expenses, the following represent two areas where per cent of expenditures decreased.

- In 1937, nutrition services accounted for 27 per cent of total hospital expenditures as against 12 per cent in 1959.
- In 1937, 25 per cent of hospital expenditures went toward housekeeping, laundry and maintenance as compared with 15 per cent in 1959.

The new techniques and procedures involved in the management of illness, while decreasing the length of hospital stay, have also contributed to higher daily hospitalization costs. Occupancy rates are also factors in hospital costs. In 1958, the occupancy rate in all short-term general hospitals was approximately 75 per cent. With the annual operating cost per occupied bed estimated at around \$9,000, the unoccupied bed represents part of overhead which affects the total cost of hospital operations.

The role of hospitals as teaching and training institutions for nurses, particularly in graduate

education, represents another significant element in costs. Another cost factor is that of greater remuneration to interns and residents, although many believe that these salaries are at present insufficient.

The foregoing constitutes a brief review of the reasons cited for increasing costs of hospital care. They do not include elements such as the effects of population growth, greater use of hospital and medical services, the surge in hospital insurance and prepayment protection which has resulted in more admissions to the hospital, and hospital admissions for diagnostic studies that might otherwise have been done on an outpatient basis.

As the Somers⁵ state in their book, *Doctors, Patients, and Health Insurance*:

"Critics accept the basic validity [of the reasons mentioned above] but are distressed because many hospital officials are insisting on the inevitability of indefinitely continued increases."

The rash of studies and investigations by insurance commissioners in a number of states is a symptom of this distress. Physicians and the general public, alike, are alarmed at the reluctance with which new economies and techniques are introduced into hospital operations—despite the findings of several studies such as that of the Commission on Financing of Hospital Care and despite some of the innovations in the management of patient care, such as home care and progressive patient care. Many hospital administrators, among other students of the problem, feel that the medical profession and the public must bear an increasing share of the responsibility to resolve the problem of increasing hospital costs, and that the physician should play a more vital and central role in: (1) Educating the public with regard to proper use of hospitals, and (2) assuming greater responsibility for that portion of hospital costs for which he is directly or indirectly responsible. In this regard, most commonly heard criticisms relate to unnecessary admissions, length of hospital stay, and over-use of diagnostic tests and equipment. Some of these abuses are referred to in an A.M.A. report to its House of Delegates at the 1961 annual session in New York.³ And some of the criticism has been directed to various practices and the nature of quality controls in proprietary hospitals. (The bureau has had made available to it the results of a study among a large group of employees utilizing voluntary and proprietary hospitals in Southern California. The data reveal that over an eight-month period in 1957-58 in a basic plan of coverage: (1) The average operating room charges for six selected types of surgical confinements were greater by 16.6 per cent in proprietary hospitals than in voluntary hospitals, (2) average laboratory charges were 23.8 per cent higher in proprietary hospitals, and (3) average total ancillary charges

were 38.5 per cent higher in proprietary hospitals. As to total ancillary charges for nonsurgical confinements, the average in proprietary hospitals exceeded that in voluntary hospitals by 11 per cent. Charges were less for proprietary hospitals by 11.5 per cent for average length of nonsurgical confinement, and less by 8 per cent for average nonsurgical laboratory services.

Among the many proposals which have been made to reduce hospital costs are several which the Bureau of Research and Planning feels physicians should seriously consider and attempt to implement in communities in which they practice. If they have not already done so, county medical societies should be encouraged to develop appropriate liaison mechanisms and hold informal conferences with hospital administrators and medical staff representatives, as well as with members of the public, to determine how best to achieve the objective as to which all are apparently in agreement. No single, hard and fast rule or set of recommendations will apply equally to all hospitals. Immediate and long-range objectives can best be determined by responsible community leaders—with the medical profession assuming the responsibilities and obligations required of it. Therefore:

1. Hospitals should continue to encourage philanthropic support by communities, corporations, foundations and individuals to meet deficits or to plan for improvement of services.

2. A careful determination of community needs should be made before: (a) Scope of hospital service is established or expanded, and (b) capital expenditures for construction and equipment are made.

3. Hospitals should budget income and expenditures on a realistic basis, basing such determinations on the possibility of: (a) Joint purchasing, (b) joint surveys of community needs to eliminate duplication of equipment, and (c) combining recruitment and training programs.

4. Medical staffs should develop and establish medical audit procedures which may reveal unnecessary use of facilities and any need for changes in admission and discharge procedures.

5. Methods should be developed to reduce prolonged use of hospital beds and promote early referral to special facilities for the management of chronic illness in convalescent or nursing homes and rehabilitation facilities.

6. Physicians should evaluate the extent to which they themselves order laboratory tests in order that there can be no criticism dealing with over- or unnecessary use.

7. Studies should be made to determine the most effective utilization of all hospital personnel, so that the more skilled personnel are not assigned tasks

which relatively unskilled persons may perform under proper supervision.

8. Pharmacy costs should be looked into, so that prescribing by generic, rather than brand names, becomes a routine procedure.

9. Better accounting methods should be instituted for proper determination and allocation of costs, and

10. Education of the public should be promoted as to the reasons for increasing hospital costs, and as to the necessity of purchasing voluntary health insurance which will provide for outpatient care.

Illustrative of the efforts being carried out in this state to meet the problem of rising costs is the publication, in 1960, by the California Hospital Association of its *Uniform Accounting Manual*.⁷ This manual was the culmination of a four-year study participated in by many experts in the accounting field. The California Hospital Association has informed the Bureau of Research and Planning that "the majority of hospitals in the state have now begun to install this uniform system." Another step, currently under way and planned for completion in 1962 by the C.H.A. is a *Cost Allocation Manual*. These systems, together with its "Guiding Principles for Hospital Charges," "will be far-reaching steps in hospital business practices," according to Mr. Avery M. Millard, executive director of the California Hospital Association.

Within the past few years, increasing public concern with rising expenditures for hospital care has made the medical profession acutely aware of the fact that much of the "blame" is being placed on its shoulders. Unfortunately, the attitude that "others" are looking into the problem has acted as a soporific in a number of instances. The costs of hospitalization will be stabilized when physicians, hospital administrators and other responsible members of every community make a concerted, organized and conscious effort to institute the controls, establish and police the safeguards which alone can retard the increase in hospital costs.

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The Informed Surgical Consent

A Report by the Joint California Medical Association-California Hospital Association Medicolegal Education Committee

WHEN A PATIENT consults a physician, he is seeking professional advice and help. In a legal sense, if the physician agrees to treat or consult, he enters into a contract with the patient. When a physician makes recommendations, the patient may decline to follow them in whole or in part. The physician cannot control what the patient will do. When the physician recommends a surgical procedure, the patient must decide whether he will or will not consent to the operation. The decision to have the operation, except in cases of emergency, can only lawfully be made by the patient or his parent or guardian.

In recent years, several physicians have been sued by patients who were injured in the course of an operation and it was alleged and proven that they did not consent to the operation. If it can be proven that a patient did not knowingly consent to a procedure, the physician is considered to have committed a personal trespass and may be sued for damages in an action based upon the legal theory of assault and battery.

The courts have held that before an ordinary citizen can give a valid consent to an operation, he must know about the hazards of that procedure. Since the physician is the one who has been engaged by the patient as his personal advisor, it is the physician's duty to carefully inform the patient about the problems that might reasonably result, in order that the patient may give an intelligent answer or consent.

Recently, Mr. Bernard D. Hirsh, director of the law department of the American Medical Association, wrote an article which was published in the *Journal of the American Medical Association*, issue dated May 6, 1961, entitled "Informed Consent to Treatment." It is an excellent summary statement of the recent cases in which physicians have been held to have failed to give a patient the information needed in order to give an informed consent. Mr. Hirsh graciously has permitted it to be reprinted.

To be legally valid, the consent given to a procedure must be an intelligent or informed consent, with an understanding of what is to be done and the risks involved.

In *Bang v. Charles T. Miller Hospital*, 251 Minn. 427, 88 N.W.2d 186 (1958), the plaintiff consented to a transurethral prostatic resection. In performing the operation, the defendant surgeon severed the plaintiff's spermatic cords. The plaintiff, who brought an action for assault or unauthorized surgery, testified that nothing had been said concerning the fact that he would be rendered sterile by

the operation. There was uncontradicted testimony at the trial that severance of the spermatic cords—bilateral section and ligation of the vas—is routine in cases of patients the age of the plaintiff, for otherwise there is a possibility of infection.

At the close of the plaintiff's evidence, the case was dismissed on its merits but on appeal the trial court was reversed and a new trial ordered. The Supreme Court of Minnesota held that in the absence of an emergency, the patient should have been informed before the operation that if his spermatic cords were severed it would result in his sterilization but if this were not done there would be a possibility of infection. The court concluded that on the basis of the record it was a question for the jury whether the plaintiff consented to the performance of the operation.

In principle, the case recognizes that a patient is entitled to the material facts regarding contemplated surgery. Under the circumstances, had the patient been aware of all the facts, he might have chosen to reject surgery or, having chosen surgery, he might have preferred to run the risk of infection rather than have his spermatic cords cut.

Professor Allen H. McCoid* expressed this opinion in a law review article:

If the sole basis of reason for bringing an action is . . . disappointment as to the outcome of the operation, there is no real loss in denying recovery. On the other hand, serious objection may be raised to denying recovery where the reason for bringing the action is failure of communication by doctor to patient. The proper solution of this problem, in the opinion of the author, is to recognize that the doctor owes a duty to his patient to make reasonable disclosure of all significant facts, i.e., the nature of the infirmity (so far as reasonably possible), the nature of the operation and some of the more probable consequences and difficulties inherent in the proposed operation. It may be said that a doctor who fails to perform this duty is guilty of malpractice.

This article was cited in support of the rule requiring an informed consent in *Natanson v. Kline*, 186 Kan. 393, 350 P.2d 1093 (1960). The plaintiff sued a radiologist, alleging she suffered injuries as a result of cobalt irradiation therapy and that the hazards had not been explained to her prior to treatment. The jury found in favor of the radiologist on the issue of alleged negligent treatment. The lower court refused to instruct the jury on the question of "informed consent." In ordering that the case should be retried, the Kansas Supreme Court stated:

In our opinion the proper rule of law to determine whether a patient has given an intelligent consent to a proposed form of treatment by a physician . . . compels disclosure by the physician in order to assure that an informed consent of the patient is obtained. The duty of the physician to disclose, however, is limited to those disclosures which a reasonable medical practitioner would make under the same or similar circumstances. How the physician may best discharge his obligation to the patient in this difficult situation involves primarily a question of medical judgment. So long as the disclosure is sufficient to assure an informed consent, the physician's choice of plausible courses should not be called into question if it appears, all circumstances considered, that

*McCoid, A. H.: Reappraisal of liability for unauthorized medical treatment, Minn. Law Rev., 381:427, 1957.

the physician was motivated only by the patient's best therapeutic interests and he proceeded as competent medical men would have done in a similar situation.

The decision in *Natanson v. Kline* emphasized the fact that cobalt irradiation is a new therapy that requires explanation. A similar case in Virginia, *Hunter v. Burroughs*, 96 S.E. 360 (1918), dealt with x-ray therapy when it was also a relatively new therapy. The plaintiff's legs and ankles were badly burned and ulcerated as a result of x-ray treatment for eczema. He brought an action for malpractice in which he charged the defendant physician with (1) negligent treatment and (2) failure to warn him of the danger of possible bad consequences. The plaintiff alleged that if the defendant physician had made known to him that there was great danger that x-ray treatment might result in burns and ulcers, he would not have permitted the treatment and the injuries complained of would not have occurred. The plaintiff alleged further that the defendant physician misled him not only by failing to warn him of the danger but also by affirmatively assuring him that x-ray treatment would cure his eczema within 8 weeks. On appeal, the Supreme Court of Appeals of Virginia sustained the verdict of the jury for the plaintiff.

The court held that there was sufficient proof of negligence to sustain the jury's verdict. Therefore, the court did not consider it necessary to determine whether there was sufficient evidence to sustain the charge that the plaintiff had been misled into submitting to x-ray treatment. However, on this score the court stated as a rule of law that failure of a physician "to warn a patient of the danger of possible bad consequences of using a remedy . . . is not per se an act of negligence." However, when the defendant has "misled" the plaintiff by "the positive assurance of cure," there is "a good cause of action."

In a Missouri case, *Mitchell v. Robinson*, 334 S.W.2d 11 (1960), a malpractice action was brought against a psychiatrist and his associates for convulsive fractures sustained by a patient undergoing insulin shock therapy for emotional illness. The principal defendant testified that fractures frequently occur when insulin shock therapy is properly administered. The jury awarded the plaintiff \$15,000 damages, and the question on appeal was whether there was any evidence to support the jury's finding of negligence. On the ground that the jury's instructions were misleading and confusing, the court ordered a new trial, stating:

In the particular circumstances of this record, considering the nature of Mitchell's illness and this rather new and radical procedure with its rather high incidence of serious and permanent injuries not connected with the illness, the doctors owed their patient in possession of his faculties the duty to inform him generally of the possible serious collateral hazards; and in the detailed circumstances there was a submissible fact issue of whether the doctors were negligent in failing to inform him of the dangers of shock therapy.

A comparable situation was involved in an English case, *Bolam v. Friern Hospital*, [1957] 2

All E.R. 118. The issue considered was whether a psychiatrist was under a duty to warn of the risks involved in electroshock therapy. In 1954, the plaintiff, John Bolam, who was suffering from a depressive type of mental illness, was advised by a psychiatrist attached to the defendant hospital to undergo electroshock therapy. He signed a form of consent to the treatment but was not warned of the risk of fracture involved. In the course of treatment, the plaintiff sustained severe physical injuries consisting in the dislocation of both hip joints with fractures of the pelvis on each side.

No relaxant drugs were used, although the use of relaxant drugs would admittedly have excluded the risk of fracture. At the trial there was testimony that, among those skilled in electroshock therapy, there were two bodies of opinion, one that favored the use of relaxant drugs as a general practice and the other, thinking that the use of these drugs was attended by mortality risks, that confined the use of relaxant drugs to cases in which there were particular reasons for their use. The plaintiff's case was not such a case. Similarly, there was testimony that different views were held among competent professional men on the question of whether a patient should be warned about the risk of fracture before being treated or should be left to inquire what the risk was; and there was evidence that in cases of mental illness explanation of risk might affect the patient's decision whether to undergo the treatment. The defendant psychiatrist testified that the risk of fracture was 1 in 10,000.

In the summing-up, the court directed the jury as follows: 1. A doctor is not negligent, if he is acting in accordance with a practice accepted as proper by a responsible body of medical men skilled in that particular art, merely because there is a body of such opinion that takes a contrary view.

2. The jury might well think that when a doctor was dealing with a mentally sick man and had a strong belief that his only hope of cure was submission to electroshock therapy, the doctor could not be criticized if, believing the dangers involved in the treatment to be minimal, he did not stress them to the patient.

3. In order to recover damages for failure to give warning, the plaintiff must show not only that the failure was negligent but also that if he had been warned he would not have consented to the treatment.

The jury returned a verdict for the defendants.

In *Salgo v. Leland Stanford, Etc., Board of Trustees*, 154 Cal. App. 2d 560, 578, 317 P.2d 170, 181 (1957), the court said:

. . . A physician violates his duty to his patient and subjects himself to liability if he withholds any facts which are necessary to form the basis of an intelligent consent by the patient to the proposed treatment. Likewise the physician may not minimize the known dangers of a procedure or operation in order to induce his patient's consent. At the same time, the physician must place the welfare of his patient above all else and this very fact places him in a position in which he sometimes must choose

between two alternative courses of action. One is to explain to the patient every risk attendant upon any surgical procedure or operation, no matter how remote; this may well result in alarming a patient who is already unduly apprehensive and who may as a result refuse to undertake surgery in which there is in fact minimal risk; it may also result in actually increasing the risks by reason of the physiological results of the apprehension itself. The other is to recognize that each patient presents a separate problem, that the patient's mental and emotional condition is important and in certain cases may be crucial, and that in discussing the element of risk a certain amount of discretion must be employed consistent with the full disclosure of facts necessary to an informed consent . . .

Failure to explain was not a basis for liability in a North Carolina case, *Hunt v. Bradshaw*, 242 N.C. 517, 88 N.E. 2d 762 (1955). A piece of metal lodged in the plaintiff's neck but caused him no difficulty. After x-ray examination, the defendant doctor advised the patient that the metal should be removed because its movement would endanger his heart. Answering the patient's question whether the operation was a serious one, the doctor said that there was nothing to it, that it was very simple. Actually, the location of the metal created a serious surgical risk, in that if the blood supply to a certain bundle of nerves was stopped, a partial paralysis could result. This happened in the course of the operation and the patient brought suit alleging, among other charges of negligence, that the doctor was negligent in failing to explain the risks involved. On appeal, the court affirmed the nonsuit, stating:

Upon Dr. Bradshaw's advice the operation was decided upon. It is understandable the surgeon wanted to reassure the patient so that he would not go to the operating room unduly apprehensive. Failure to explain the risks involved, therefore, may be considered a mistake on the part of the surgeon, but under the facts cannot be deemed such want of ordinary care as to import liability. Of course, it seems hard to the patient in apparent good health that he should be advised to undergo an operation, and upon regaining consciousness finds that he has lost the use of an arm for the remainder of his life. Infallibility in human beings is not attainable. The law recognizes, and we think properly so, that the surgeon's hand, with its skill and training is, after all, a human hand, guided by a human brain in a procedure in which the margin between safety and danger sometimes measures little more than the thickness of a sheet of paper. The plaintiff's case fails because of lack of expert testimony that the defendant failed, either to exercise due care in the operation, or to use his best judgment in advising it.

In a Delaware case, *Fischer v. Wilmington General Hospital*, 149 A.2d 749 (1959), the plaintiff was given a pint of blood in connection with a dilation and curettage and later developed jaundice hepatitis. She alleged that the defendant hospital was negligent in failing to warn her of the risk of contracting hepatitis. The court said:

Considering the frequency of the use of transfusions, the nature and extent of the risk involved in comparison with the alternative risk, the possible detrimental effect of advising patients of the risk and the general practice in the local medical profession not to so advise patients, the court feels impelled to conclude that the defendant did not have a legal duty to plaintiff to advise her in advance that hepatitis might be communicated.

An English case considered the matter of informing the patient as involving a moral but not a legal

issue. In *Hatcher v. Black*,* Mrs. Hatcher, who used her voice in radio broadcasting work, was operated on for a toxic goiter. Prior to the operation she was informed of the possible alternatives of a partial thyroidectomy or medical treatment, and advised that operative treatment was the better course.

When Mrs. Hatcher asked the surgeon on the night before the operation whether there was any risk to her voice, he told her that there was none. After the operation she found her voice was not strong. On examination it was found that her left vocal cord was paralyzed. Apparently the laryngeal nerve was damaged in the operation. Mrs. Hatcher alleged in her complaint that had she known there was any risk she would have chosen medical treatment, not operation.

In his summing-up to the jury, the judge of the Queen's Bench Division said:

[The surgeon] had admitted that on the evening before the operation he had told Mrs. Hatcher that there was no risk to her voice when he knew that there was some slight risk; but that he did it for her own good because it was of vital importance that she should not worry. He told a lie; but he did it because in the circumstances it was justifiable. If that were a court of morals that would raise a nice question on which moralists and theologians had differed for centuries. That, however, was not a court of morals, and the law left the question to the conscience of the doctor himself—though if doctors had too easy a conscience on this matter they might in time lose the confidence of the patient which was the basis of all good medicine.

The jury returned a verdict for the defendants.

The holdings in the recent cases involving alleged lack of consent may make the physician a frequent target for malpractice claims whenever a bad result occurs. Since the gist of the action does not involve negligent treatment but negligence in failing to explain the hazards to the patient, the claim of alleged lack of informed consent may become attractive to those attorneys who seek new "theories" of liability against physicians. Under the circumstances, the physician must be prepared to prove in court that he explained the risks involved to the patient whenever surgical, therapeutic or diagnostic procedures involve more than the hazards which the patient might normally expect. The physician's best protection is to inform the patient fully regarding any unusual risks that may be involved and to insist upon a consent in writing in which the patient acknowledges this explanation.

Based on the rules discussed in the cases reviewed by Mr. Hirsh, the following guides are recommended for physicians in order that they might prove in any given case that they furnished the information to the patient which he needed to have in order to give a valid consent.

1. A physician may not *minimize* or affirmatively *misrepresent* known risks to induce a patient to consent to an operation or treatment.
2. The duty of a physician is to make *such dis-*

* (a) Eddy J. P.: Professional Negligence, London: Stevens & Sons, Ltd., 1955. (b) Case report, Brit. Med. J., 2:105-106, July 10, 1954.

closures as a reasonable medical practitioner would make under the same or similar circumstances.

(a) Such disclosures should include the *commonly known dangers* which a patient cannot be expected to know.

(b) Such disclosures should include the *significant* or possibly *serious* or *more probable* consequences inherent in the operation or treatment, or collateral hazards.

In order to help eliminate misunderstandings and to guard against the frailness of human memory, it is suggested that in dangerous, complicated and unusual procedures a written consent form be obtained by the physician from the patient. (As an appendix to this article, there will be found a suggested consent form which covers the essential elements of an informed consent alluded to by the courts.)

The attending physician should obtain from the patient, parent or guardian (except in unusual situations such as an unconscious person), consent to operate or treat. Most hospitals require that patients on admission sign a statement that they have given their consent to the attending physician to perform a treatment or an operation. This is a record required by the hospital. It is not a physician's record of the consent he obtained nor is it a substitute for such a consent. In emergency situations where the patient is unconscious and where more extensive surgery was necessarily done than contemplated, it is recommended that the facts be explained to the patient when he is sufficiently recovered to understand and a notation be made in the hospital's and physician's records of the discussion and the patient's ratification.

CONSENT TO OPERATION, ANESTHETICS, AND OTHER MEDICAL SERVICES

Date_____Time_____A.M.
P.M.

1. I authorize the performance upon_____ (Myself or name of patient)

of the following operation_____ (State nature and extent of operation)

to be performed under the direction of Dr._____

2. I consent to the performance of operations and procedures in addition to or different from those now contemplated, whether or not arising from presently unforeseen conditions, which the above-named doctor or his associates or assistants may consider necessary or advisable in the course of the operation.

3. I consent to the administration of such anesthetics as may be considered necessary or advisable by the physician responsible for this service, with the exception of

(State "none," "spinal anesthesia," etc.)

4. I consent to the photographing or televising of the operations or procedures to be performed, including any appropriate portions of my body, for medical, scientific or educational purposes, provided my identity is not revealed by the pictures or by descriptive texts accompanying them.

5. For the purpose of advancing medical education, I consent to the admittance of observers to the operating room.

6. I consent to the disposal by hospital authorities of any tissues or parts which may be removed.

7. I am aware that sterility may result from this operation. I know that a sterile person is incapable of becoming a parent.

8. The nature and purpose of the operation, possible alternative methods of treatment, the risks involved, and the possibility of complications have been fully explained to me. No guarantee or assurance has been given by anyone as to the results that may be obtained.

(CROSS OUT PARAGRAPHS ABOVE WHICH DO NOT APPLY)

Signed_____ (Patient or person authorized to consent for patient)

Witness_____

Letters to the Editor...

An Item of Socialism

ONE GETS TIRED of reading so much in our publications about the threat of socialized medicine. And from time to time we receive invitations to join this or that organization for the purpose of combating socialized medicine. At the same time, we are accused by the lay people of being a selfish, mercenary group. It seems to me we give them reason for feeling so, by harping continually to them about the one particular part of the advancing socializing process which particularly affects us as doctors.

Isn't it obvious that if we are to have (more) socialism we, as doctors, certainly will be social-

ized, along with everyone and everything else? Conversely, if we can prevent *socialism* we will not have socialized medicine.

Therefore, why don't we stop expending our efforts as a small, ineffective, and possibly unliked group, and instead of speaking as doctors against socialized medicine, speak out as Americans against *socialism*, preferably adding our voices to those of other patriotic Americans? It seems to me that our present methods, besides being costly and ineffective, defeat our purpose and may be partially responsible for our "sagging image."

ARTHUR A. MICKEL, M.D.

Coalinga

A.M.A. Policies

Some Questions Raised, and Some Answers

Because it makes good use of a forum for physicians, bringing light where light can be most helpful, the following exchange of letters is reprinted from the September 1961, issue of the *Bulletin* of the Alameda-Contra Costa Medical Association.

SOME QUESTIONS

Dr. David J. Dugan
President,

Alameda-Contra Costa Medical Association

Dear Dr. Dugan:

I have wanted to write to you for some time to express my concern to you and the other officials of the A.C.C.M.A. about what I feel to be the continued negativistic and destructive approach that the American Medical Association is taking toward the important medical and social issues of our time. Among those issues that concern me are the A.M.A.'s past opposition to group practice of medicine, their opposition to some aspects of social security, their present opposition to medical care for the aged under social security, their handling of foreign doctors, the opposition to full acceptance of osteopaths, the backing of the oral polio vaccine at the expense of the Salk injections, and numerous other stands they have taken. I feel that the A.M.A. policies are established by a small oligarchy of salaried employees and unrepresentative political physicians and I do not believe that these policies reflect the will of the majority of American physicians. If these policies of the A.M.A. are allowed to continue unchecked, I think they will paradoxically result in the very "socialized medicine," which the A.M.A. purports to oppose.

The California Medical Association has been a little more forward-looking than the A.M.A. and I think our own county medical society has been much more progressive and responsible in its actions. However, much more needs to be accomplished even though we are faced with the usual problems of apathy and lack of participation that exist in organizations.

Among the positive and responsible things which we as physicians should be doing are: Improving medical education by broadening the curriculum, developing more medical schools and admitting more students without regard to arbitrary quotas; making high quality medical (including psychiatric) care available to all at a cost they can manage; improving democratic procedures within medical associations in order to give voice to the average physician and prevent a self-perpetuating hierarchy from controlling official medical policies; seeking

out and disciplining questionable and unethical practices such as overcharging or needless hospitalization; strongly opposing quackery as in the chiropractic profession, faith healing, etc.; and rapidly accelerating reasonable and comprehensive voluntary health insurance plans so that government intervention will not be necessary.

I respectfully request that the A.C.C.M.A. Council institute procedures to amend our present bylaws so that membership in the C.M.A. and A.M.A. will be voluntary rather than compulsory. In this connection I would be interested in a summary of past legal rulings from courts on this requirement of concurrent membership and also on the question of hospitals requiring medical society membership for staff privileges. My interest here is in providing free choice to the individual physician in as many matters as possible.

I also request that the membership of the A.C.C.M.A. be polled on: (1) their support or disapproval of Medical Care for the Aged under Social Security; (2) their support or disapproval of A.M.A. policies in general and (3) their support or disapproval of the above-mentioned proposed amendment to the bylaws.

I raise these questions and make these requests out of a serious desire to constructively improve the practice of medicine and quality of medical care as well as a wish to reawaken the traditionally high standards and ethics of the medical profession. Medicine cannot stand still if it is to retain its traditional position of leadership and esteem in the community.

Sincerely,

(Name Withheld)

SOME ANSWERS

Dear Doctor:

At its August meeting, the Council of the A.C.C.M.A. heard and discussed your letter of July 26th, in which you comment critically on the attitudes and activities of the American Medical Association. The Council asked me to reply to your letter and to describe to you the Council's views and those of some of its members who also serve in capacities in the California Medical Association and the American Medical Association.

You mention the "A.M.A.'s past opposition to group practice of medicine." The A.M.A. has not opposed group medicine. In fact, a number of A.M.A. presidents, including its present president, have been participants in or founders of their own group practices. What A.M.A. has objected to is "contract practice" in which a patient makes a contract with a group of doctors which he cannot break during an illness without financial penalty. The

objection is that the patient's right to change his source of medical care at any time for any reason should not be compromised. It is the feeling of organized medicine that this right of the patient results in medical progress and the greatest possible ultimate satisfaction and the best medicine to the most patients under the largest variety of circumstances.

You mention A.M.A.'s opposition to some aspects of social security and its present opposition to medical care for the aged under social security. The A.M.A. in the past has opposed some changes in the social security law which had to do with medicine. We are unaware of any opposition that was not based on inadequacies and impracticalities in those proposals which could be best known by medicine and which organized medicine has a citizen's duty, as well as a duty to its members, to express. The A.M.A. House of Delegates has expressed itself in opposition to social security for physicians. Since the House of Delegates is elected from state medical association officialdom who, in turn, are generally selected by county medical association members, I think that we can assume that this expression was democratically arrived at. As you know, there has been an honest difference of opinion in the House of Delegates on this subject. We would suggest that your views be communicated to the A.M.A. delegates from this state, preferably those who are elected from Alameda and Contra Costa Counties. Our own county society has taken two polls of its membership on this question and both resulted in a slight majority in favor of social security for doctors. Our delegates to A.M.A. and C.M.A. were, of course, aware of these results.

As to the A.M.A.'s position on medical care for the aged under social security, we think there are many objections to it from economic, medical, political and administrative points of view. We have material which discusses all these points of view, and which has been and is available to you. To go into this question in this letter at the length it deserves would be difficult, and I would refer you instead to some of this material. If you read it conscientiously, your own views may be moderated and you will recognize at least some validity in the A.M.A.'s point of view.

You mention the A.M.A.'s "handling of foreign doctors." By this we presume that you feel A.M.A. has been too restrictive in its welcome to foreign doctors. It is our feeling, on the contrary, that the A.M.A. has been guided by one consideration in its attitude toward foreign doctors: the protection of the quality of medical care delivered in the United States. In opposition to your opinion, evidence exists that A.M.A. and licensing bodies have not followed policy sufficiently restrictive to protect

the public adequately from poorly trained doctors from foreign lands. Furthermore, if you have traveled abroad and made investigations into the subject, you will know that no country in the world is as liberal as our states in issuing licenses to foreign doctors. You will probably also agree that few countries provide the quality of medical training American medical students receive.

Because of its brevity, I am unable to comment specifically on your objection to the A.M.A.'s "opposition to full acceptance of osteopaths." The A.M.A.'s last action on this problem was in essence to relegate it to local decision. In our opinion there could be no other action, since osteopaths differ widely, from state to state, in the scope of their licenses, their numbers and their training and abilities. In California, too, there was no "full acceptance" of osteopaths because not all osteopaths are licensed or trained to practice medicine and surgery. It is our opinion that over the years A.M.A. has been essentially right in its attitudes toward osteopathy, and that these attitudes have gradually changed and continued to change as osteopathy changes.

You mention the A.M.A.'s "backing of oral polio vaccine at the expense of the Salk injections." You imply that there was some nonmedical ulterior motive in such a sponsorship, and we cannot imagine what that would be. Few of us are cynical enough about the A.M.A. to believe that it would wilfully advocate a medical course of action which, from the point of view of the patient's welfare, would be less desirable than another available course of action.

You mention that "A.M.A. policies are established by a small oligarchy of salaried employees and unrepresentative political physicians." Most doctors acquainted with the growing problems that beset medicine at all levels recognize the need to employ lay people with varying skills to assist them in handling these problems in an organized way. Although we are sometimes fortunate and sometimes unfortunate in our choice of these people, I am sure that the vast majority of them are skilled, sincere, and even dedicated in their desire to serve medicine. The majority of them also are careful to be outspoken and to involve themselves in all matters in which they legitimately should, and equally careful to avoid involving themselves in questions and decisions which can and should be made only by medical doctors. If the physicians who represent you are "unrepresentative" and "political," they are so by default of the informed interest, participation and involvement of the general membership, but I do not believe that this is true. Few problems of medicine are simple ones, and it is interesting to see how a little practical experience with them

changes the sometimes oversimple solutions of those who have not been directly exposed to the facts.

You mention that our organization should be improving medical education, developing more medical schools, and "admitting more students." It is difficult to find a subject in which greater interest has been shown in the past fifteen years by A.M.A., C.M.A. and the county societies, including our own. The California Medical Association imposes an annual \$10.00 contribution on each of its members for the support of medical schools. As far as we know, no other organizations of professional people so contribute. A.M.A.'s publications, pamphlets and the A.M.A. *Journal* have been concerned over the past five or ten years with the decreasing pool of applicants for medical schools and with the financial plight of medical schools and students, and have communicated this concern to the lay press. Our own county medical society annually provides two \$500.00 scholarships for students in Alameda and Contra Costa Counties. Part of the A.M.A.'s forthcoming dues raise will probably be allocated to the provision of similar scholarships on a national basis. I am sure suggestions for additional activity along these lines would be welcome.

You mention that we should work to make high quality medical care, including psychiatric care, available to all at a cost they can manage. At every level of medicine—county, state and national—consultations are constantly being carried on between labor unions, health and welfare plans, insurance carriers, government agencies, employers and individuals to assist them in finding and purchasing and providing the kind of benefits through insurance which doctors know will produce the most for the patient at the least cost. Hardly a month goes by in which the committees, officers and staffs of this medical society are not engaged in such talks: two were held last month, one more is scheduled this month, and when the vacation months are past we can expect to see the usual increase in this kind of activity. Your own county society was one of the pioneers in this function, and we believe began to set a pattern for organized medicine in the United States seven or eight years ago. Also, you are apparently unaware of the consultation provided at every level of medicine to agencies such as the Federal Civil Service, Department of Defense, Department of Health, Education and Welfare, California and County Social Welfare Departments, County Boards of Supervisors, County and State Health Officers, the Veterans Administration and others which will occur to you. Are you aware also of the A.M.A.'s Commission on Medical Care Plans, the C.M.A.'s Bureau of Research and Planning, the C.M.A.'s "Socio-Economic" library, the C.M.A.'s

Medical Services Commission and the committees under it, and the A.C.C.M.A.'s Medical Services Committee, which produced the prototype of the Relative Value Survey which has begun to spread as a significant medical-economic contribution throughout the United States? The lay press has largely disregarded these activities, although they make the really significant news in medicine; it is our feeling that they disregard this real news because it is complicated and undramatic. However, these activities are constantly and at length reported in the A.M.A., C.M.A. and A.C.C.M.A. journals.

Your own society also pioneered in the function of eliminating the abuses which occur at the hands of a tiny minority of doctors, but which discredit all doctors. This, too, is now considered a necessary and productive function of medical societies everywhere. Let me assure you, however, that it is not a simple problem and that it requires personal risk, expenditure of time and the exercise of care and judgment by the committee members charged with this responsibility.

You requested that we institute procedures so that membership in the C.M.A. and A.M.A. would be voluntary rather than compulsory. The Council, unanimously, considers such a proposal unwise. New York State has recently adopted this requirement because of the clear demonstration of the California delegation's influence in the A.M.A.'s House. Those other states who do not have this requirement will, it is hoped, soon emulate New York. We hope this because medicine has never suffered as many onslaughts from as many sources as it has in the past five or six years. In such a climate, to take an action which would tend to disintegrate whatever organization we now possess, resembles disarming our army in midbattle. It would be wiser to maintain the integrity of the organization while interested members, who have dissatisfactions with it, work diligently for the changes they desire. I can assure you that the officers of every medical organization are exquisitely sensitive to the opinions of any doctor who will express himself. In spite of what you may have read in the papers, I have yet to see any kind of medical association reprisal taken against a doctor who has expressed himself in opposition to the officers of his organization.

You ask for a summary of legal rulings on the requirement of concurrent membership. Without giving specific cases, we can inform you that the courts consider medical organizations as voluntary groups and do not interfere with their rules and administration unless they violate public policy or fail to observe due process. Hospitals requiring medical society membership for staff privileges do so with no advice from this county society, Cali-

fornia Medical Association or the American Medical Association. On the contrary, hospital staffs have been repeatedly advised by C.M.A. and A.C.C.M.A. that they should not make hospital staff membership contingent upon membership in the medical society, but should instead evaluate each applicant's suitability for staff membership on other criteria also, chief among which are his competence and training.

You also request that the membership of the A.C.C.M.A. be polled on their support or disapproval of medical care for the aged under social security. The Council does not feel that such a referendum would be either necessary or helpful for two reasons: (1) Yours is the first expressed objection the Council has seen or heard from any member to the A.M.A.'s attitude toward social security medical care for persons over age 65. The Council must presume from this that those who object to A.M.A.'s attitude are a small minority, and that such a referendum would merely substantiate A.M.A.'s attitude. (2) Regardless of its result, the mere taking of such a referendum by a medical association such as ours would add to A.M.A.'s difficulties in maintaining its point of view in Congress; a point of view which appears to the Council to be gaining favor there. Organizationally, the action you suggest would afford us nothing to gain and much to lose.

You ask also for a poll on membership support or disapproval of "A.M.A. policies in general." The Council feels such a poll would be impossible to take, and that any results coming from it would be unusable because of its lack of specificity and because of the difficulty of discussing all policy questions in which A.M.A. represents medical opinion. The Council also feels that a referendum on an amendment to the C.M.A. By-Laws to delete the requirement of C.M.A. and A.M.A. membership would be purposeless, since C.M.A. By-Laws must be amended by the C.M.A. House of Delegates. Members who feel that such membership should not be compulsory should seek to persuade A.C.C.M.A. delegates to the C.M.A. Such delegates are uninstructed and vote their own convictions as individuals. Their names appear on page 2 of the 1961 A.C.C.M.A. Directory. On this subject, I would emphasize once more that this Council would

consider such a move, particularly at this juncture in our history, as playing directly into the hands of the well-organized and sometimes extremely compulsory organizations among whose aims is that of bending doctors—and their patients—to their will. It is impossible to exaggerate the glee with which such news would be received among people who think they know exactly what is good for patients, exactly how you should practice medicine, and exactly how much money you should make.

It would be surprising indeed if the attacks and misinformation to which doctors and all medical organizations have been subjected over the past two decades did not result in doubts, mistrust and objections from at least some members. During that time it has seemed almost a wilful journalistic vogue to muck-rake doctors and the profession. Some of this has even been productive in motivating organized attention to some of the inequities which have existed unremedied in the profession. However, it is our feeling that all members should guard against the uncritical acceptance of what they read in the papers, or what they hear from persons whose opinions are influenced by self-interest, lack of facts or understanding, or emotional bias.

A.C.C.M.A. committee meetings and the Council meetings are at all times open to any interested member. Only two committees are exempt from this rule upon occasion: the Ethics Committee and the Medical Practice Committee. We would urge you to attend at your convenience meetings of the Council and of committees which may interest you, since it is here that the problems of medicine are discussed in practical terms and the solutions to them are arrived at by your colleagues. You may be sure that you will be welcome at any such meetings that you care to attend. The staff at the A.C.C.M.A. building will be glad to inform you of the dates and subject matter of any meetings if you will telephone them.

Thank you for your interest.

Cordially.

ALAMEDA-CONTRA COSTA

MEDICAL ASSOCIATION

DAVID J. DUGAN, M.D., *President*

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

A grant of \$512,500 for construction of a **mental health research building** at Pacific State Hospital, Pomona, has been announced by the National Institutes of Health of the U.S. Public Health Service.

MERCED-MARIPOSA

Dr. George W. Porter, Merced, was elected president of the Merced-Mariposa Medical Society at the annual meeting in October. He succeeds Dr. J. Neil Medefind. Dr. Zdenek Fluss was elected vice-president and Dr. Patrick J. Maloney was named secretary-treasurer.

SAN FRANCISCO

Dr. Sidney J. Shipman, a past president of the California Medical Association, has been appointed to the California State Board of Medical Examiners for a term ending January 15, 1965. He succeeds Dr. Peter V. Lee of Pasadena.

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Four investigators from the University of California Medical Center in San Francisco have received the Billings bronze medal of the American Medical Association for an exhibit on their research into the role of allergic **sensitivity to food in ulcerative colitis**.

The research was reported by Dr. J. Alfred Rider, Dr. Hugo C. Moeller, Dr. John O. Gibbs, and Miss Joyce Swader.

* * *

Taking office as president of the **American Association of Medical Assistants** at its fifth national convention, held in Reno, October 13 to 15, **Lillie Woods** of San Francisco called on medical assistants to "exert efforts toward creating a warm, friendly atmosphere in physicians' offices to contribute to better doctor-patient relationships essential to top quality medical care."

Nearly 500 medical assistants attended the meeting. Certification and self-improvement programs as well as changes in the constitution and by-laws were major items considered by the organization's House of Delegates.

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An international symposium, "**Man and Civilization: Control of the Mind—II**," is to be held at the University of California Medical Center, San Francisco, January 26 to 29, 1962. Like the first such symposium, which was held in January, 1961, the 1962 meeting will be a further "multidisciplinary examination of the many factors that influence our thought." The first two days will be directed specifically to physicians and other health scientists.

Further information may be obtained from Seymour M. Farber, M.D., assistant dean in charge of continuing education in medicine and health sciences, U.C. Medical Center, San Francisco 22.

Physician and Practice Characteristics

More than 10,500 completed questionnaires were returned to the C.M.A. Bureau of Research and Planning during the first 30 days of the survey of physician and practice characteristics, according to Dr. Gerald Shaw, chairman of the Bureau.

Calling the return to date "gratifying," Dr. Shaw urged those who have not yet responded "**to do so soon**" in order to achieve the broadest possible statistical base. All returns are kept "in strictest confidence," he said.

GENERAL

Over 2,500 doctors attended the 13th annual scientific assembly of the **California Academy of General Practice** at the Statler-Hilton in Los Angeles, October 15 to 18.

The Congress of Delegates elected **John A. C. Leland**, Berkeley, to the office of president-elect. Dr. Leland, who has been serving as a district director and treasurer of the Academy, will be installed as president at the 1962 Assembly.

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Organization of a **West Coast Allergy Society** will take place Saturday, December 2, when allergists from California, Oregon and Washington gather at the Fairmont Hotel in San Francisco, according to Merle W. Moore, M.D., Portland, temporary chairman. "The new society will not supplant existing state organizations," according to the letter announcing the meeting, but "will bring together members for a yearly study and evaluation of allergy problems indigenous to the western states."

Further information may be obtained from Jack Chesebro, executive secretary, West Coast Allergy Society, 1818 South Division Street, Portland, Oregon.

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Retention of some military personnel beyond the normal date of their separation from service has presented problems of eligibility proof for "**Medicare**" services for their dependents, according to W. D. Graham, Brigadier General, MC, USA, executive director of the Office for Dependents' Medical Care.

Dr. Graham pointed out that some dependents may apply for civilian medical care to which they are still entitled, but for which they have not yet received cards carrying the **extended date of expiration**. This number will not be large, he said.

Emphasizing that no claims may be processed for payment unless the dependent provides a valid ID card or statement of eligibility, Dr. Graham asks that physicians and hospitals "exercise patience and understanding during the next several months when their services are requested by dependents of these extendees." He said further that such dependents have been instructed to present "tangible evidence" to support their claims of continued eligibility.

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Physicians interested in volunteering for **short-term service in foreign mission fields** may obtain information from the American Medical Association Department of International Health, 535 North Dearborn Street, Chicago 10. This new department administers a program approved last June by the A.M.A. House of Delegates. Groups of physicians may make arrangements to **serve on a rotating basis**, each for a few weeks, to provide medical care to areas in many parts of the world that are not otherwise adequately supplied.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to Postgraduate Activities, California Medical Association, 693 Sutter Street, San Francisco 2.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Coronary Arteriosclerosis—Detection and management. Saturday, January 13. Eight hours.

The Skin and Internal Disorders. Saturday through Monday, March 24 through March 26. Twenty-four hours.

Rheumatic Heart Disease. May, 1962. Eight hours. Dates to be announced.

For information on courses for physicians or ancillary personnel *contact*: Lowell A. Rantz, M.D., associate dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Clinical Traineeships — Anesthesia, Dermatology and Pediatric Cardiology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Back Pain. Medical Center, Room 13-105, Saturday and Sunday, December 2 and 3. Nine hours. Fee: \$40.00.

Basic Science Course in Ophthalmology. Beginning December 6. "Neuroanatomy and Neuro-Ophthalmology" for persons with medical degrees.*†

Peripheral Vascular Disease. Friday and Saturday, December 15 and 16.*†

A Clinical Postgraduate Program in Mexico. February 21 through March 1. Fee: \$100.00.

Basic Science Course in Ophthalmology. February 28 through April 11. "Ocular Motility" for persons with medical degrees.*†

A Clinical Postgraduate Program in Japan and Hong Kong. April 8 through 28. Fee: \$200.00.

For information on courses for physicians or ancillary personnel *contact*: Thomas H. Sternberg, M.D., assistant dean for Postgraduate Medical Education, U.C.L.A. Medical Center, Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Problems of Adolescence. Children's Hospital, Saturday, November 4. Seven hours. Fee: \$12.50.

Alcohol and Civilization. Saturday through Monday, November 11 through 13. Twenty-one hours. Fee: \$25.00.

Psychiatry in General Practice. Napa State Hospital, Saturday and Sunday, November 18 and 19. Fourteen hours. Fee: \$10.00.

New Concepts in Hematology. Wednesday through Friday, November 29 through December 1. Eighteen hours. Fee: \$35.00.

Diseases of the Cornea. Thursday through Saturday, December 7 through 9. Eighteen hours. Fee: \$50.00.

Psychiatry in General Practice (Napa State Hospital). December 9 and 10, Saturday and Sunday.*†

Surgery of the Hand and Forearm. Friday through Sunday, December 15 through 17. Twenty-one hours.*

Skin Problems in Children. Saturday, January 13, 1962. Children's Hospital. Seven hours. Fee: \$12.50.

A Clinic on Human Disability (Morrison Center for Rehabilitation). January 19 and 20, Friday and Saturday.*†

Man and Civilization: Control of the Mind, Part II. Friday through Monday, January 26 through 29. Seven hours. Fee: \$25.00.

Psychotherapy in Medical Practice (Langley Porter). January 31 through April 18, Wednesdays. Forty-eight hours. Fee: \$25.00.

Evening Lectures in Medicine (Brookside Hospital, Richmond). February 1 through March 15, Thursday evenings. Twelve hours.*

Dermatology. Friday and Saturday, February 9 and 10. Fourteen hours. Fee: \$40.00.

Special Viewpoints in Pediatrics. Thursday through Saturday, February 15 through 17.*†

Neuropsychiatry in General Practice. Napa State Hospital. Thursdays, February 15 through March 29.*†

Course for Physicians in General Practice (Mount Zion Hospital). February 26 through March 2, Monday through Friday. Fee: \$85.00.†

The Last Hundred Years Series. Fee: \$10.00. Single admission \$1.50. Thursdays, March 1 through April 19.

Ocular Motility. Thursday through Saturday, March 8 through 10.*†

Child Development. Saturday, March 10. Seven hours. Children's Hospital, San Francisco.*

Diagnostic Radiology. March 14 through 18, Wednesday through Sunday. Fee: \$80.00.†

Evening Lectures in Medicine. Eden Hospital, Castro Valley. Tuesdays, March 27 through May 15.

Humanities and the Medical Sciences. Monterey Peninsula College, Monterey. Fridays, March 30 through April 27.*†

Water, Salts and Steroids. Thursday through Saturday. April 5 through 7.*†

Genetics in Medicine. Friday and Saturday, May 11 and 12.*†

Proctology. Thursday and Friday, May 17 and 18. Fee: \$50.00.†

Communication Problems Associated with Neurological Disorders. Friday and Saturday, July 6 and 7.*†

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Use of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

For information on courses for physicians or ancillary personnel *contact*: Department of Continuing Medical Education in Medicine and Health Sciences, University of California Medical Center, San Francisco 22. MOntrorse 4-3600, Ext. 665.

* Fees to be announced.

† Hours to be announced.

PRESBYTERIAN MEDICAL CENTER, SAN FRANCISCO

Conference on Allergy. November 11, Saturday. Eight hours. Fee: \$25.00.

Conference on Arthritis. December 2, Saturday. Eight hours. Fee: \$25.00.

Conference on Proctology. January 5, Friday. Eight hours. Fee: \$25.00.

Conference on Office Diagnosis. January 20, Saturday. Eight hours. Fee: \$25.00.

Conference on Office Gynecology and Obstetrics. February 5, Monday. Eight hours. Fee: \$25.00.

Conference on Eye, Ear, Nose and Throat. February 17, Saturday. Eight hours. Fee: \$25.00.

Operable Heart Disease (Fourth Annual Conference). Friday and Saturday, March 2 and 3. Fee: \$25.00. Chairman: Frank Gerbode, M.D.

Conference on the Hand and Foot. March 10, Saturday. Eight hours. Fee: \$25.00.

Special Surgery of the Extremities. Saturday, March 17. Fee: \$25.00. Chairman: Donald King, M.D.

Conference on Emergencies. March 24, Saturday. Eight hours. Fee: \$25.00.

Contact: Arthur Selzer, M.D., program committee chairman, Presbyterian Medical Center, Clay and Webster Sts., San Francisco 15, WEst 1-8000, Ext. 303 or 414.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advanced Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Funduscopy in Internal Medicine. Tuesday evenings, November 7 through November 28, 7 to 9 p.m. Los Angeles County Hospital. Fee: \$37.50. Enrollment limited to 20.

Review of Recent and Practical Problems in Medicine (Homecoming). Thursday and Friday, November 9 and 10, Statler Hotel, Los Angeles.*

Symposium on Anticoagulant Therapy. Friday, November 24. Fee: \$25.00.

Psychiatric Hospital Rounds begins December 6, 3:00 p.m. to 5:00 p.m. Weekly series of 12 conferences. Psychiatric Unit, Los Angeles County Hospital. Fee: \$25.00.

Psychiatry in Medical Practice. January 13 and 14. Two-day intensive workshop at San Bernardino County General Hospital. Fee: \$15.00.

Nuclear Medicine: Part I, \$50.00; Part II, eight weeks, \$350.00; Part III, 12 weeks, \$350.00. Begins January 26, 1962.

Psychiatry in Medical Practice. Approximately February 5 and 6. Two-day intensive workshop in Phoenix, Arizona.

Bedside Cardiology. Thursday evenings, February 8 through April 26, 1962, 7:30 to 9:30 p.m. Los Angeles County Hospital.

Psychosomatic Medicine Case Conferences. Begins March 7. 12 case conferences. Fee: \$35.00.

Psychiatry in Medical Practice. May, 1962. Two-day intensive workshop at San Luis Obispo County General Hospital. Fee: \$15.00.

* Fees to be announced.

Refresher Course to be held in Western Europe. Dates to be announced.

Hawaii Course. Summer of 1962.

Psychiatry Courses. *Contact:* Allen J. Enelow, M.D., associate clinical professor, Department of Psychiatry, 1934 Hospital Place, Los Angeles 33, CA 5-3131, Ext. 71951.

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

LOMA LINDA UNIVERSITY

Clinical Traineeships available in clinical departments by arrangement with Postgraduate Division and Postgraduate Chairman of department involved. In addition to those listed other traineeships in other departments can be arranged. Eighty hours minimum. Limited enrollment. Begin when individually arranged.

1. **Anesthesia.** Six months. 250 to 300 hours. Fee: \$350.00.

2. **Internal Medicine.** Two weeks to nine months.

3. **Pulmonary Diseases** (can be arranged).

4. **Traumatology.** One month. 160 hours. Fee: \$125.00.

5. **Urology** (can be arranged).

Refresher Courses: General Surgery, Internal Medicine, Obstetrics-Gynecology. Los Angeles Campus (White Memorial Hospital). March 11 and 12, Sunday and Monday. *Contact:* Alumni Association, School of Medicine, 316 No. Bailey Street, Los Angeles 33, AN 2-2173.

Continuously: Illustrated Medical Lectures. Thirty-minute tape recordings and accompanying 35 mm. filmstrip, 50 to 80 full-color pictures for screen, hand or desk viewer. Available individually or by subscription. Twelve or 36 titles per year, all titles produced in one year in any chosen specialty. Projectors and viewers included in subscription plans. *Contact:* Loma Linda University, Illustrated Medical Lectures, Los Angeles 33.

For information contact: W. F. Norwood, Ph.D., Assistant Dean and Chairman, Division of Continuing Education, Loma Linda University, 1720 Brooklyn Ave., Los Angeles 33. Angelus 9-7241, Ext. 214.

POSTGRADUATE INSTITUTES—1962

Southern Counties in cooperation with University of California Los Angeles School of Medicine. Balboa Bay Club, Balboa. February 8 and 9, 1962. *Chairman:* Bertram L. Tesman, M.D., 1781 West Romneya Drive, Anaheim, California.

West Coast Counties in cooperation with University of Southern California School of Medicine. Del Monte Lodge, Pebble Beach. March 8 and 9, 1962. *Chairman:* Joseph E. Turner, M.D., 1073 Cass Street, Monterey.

North Coast Counties, in cooperation with Stanford University School of Medicine. Hoberg's Resort, Lake County, March 29 and 30, 1962. *Chairman:* Lucius L. Button, M.D., 1102 Montgomery Drive, Santa Rosa.

San Joaquin Valley in cooperation with University of California San Francisco School of Medicine. Ahwahnee Hotel, Yosemite. May 3 and 4, 1962. *Chairman:* Samuel Ross, M.D., 2946 Fresno Street, Fresno.

Sacramento Valley Counties in cooperation with Loma Linda University. Feather River Inn, Blairsden. June 21 and 22, 1962. *Sherman DeVine, M.D., General Chairman, 2530 H Street, Sacramento.*

AUDIO-DIGEST FOUNDATION

A nonprofit subsidiary of California Medical Association, offers a subscription series of hour-long tape recordings condensing highlights of important literature and leading national meetings. Designed to be heard in the automobile, home or office. Six different services are offered—General Practice, Surgery, Internal Medicine, Obstetrics-Gynecology, Pediatrics, and Anesthesiology. Also, just compiled and released is a Catalog of Classics, offering panel discussions and symposia on specific subjects in all specialties. For information contact Mr. Claron L. Oakley, Editor, 619 So. Westlake Avenue, Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

NOVEMBER MEETINGS

LOS ANGELES PEDIATRIC SOCIETY (of Los Angeles County Medical Association) Annual Brennemann Lecture Series. Ambassador Hotel, Los Angeles, November 8 and 9. *Contact:* Leslie M. Holve, M.D., secretary, 1015 Gayley, Los Angeles 24.

PACIFIC COAST FERTILITY SOCIETY Tenth Annual Meeting. El Mirador Hotel, Palm Springs, November 9 through 12. *Contact:* Gregory Smith, M.D., secretary, 909 Hyde Street, San Francisco 9.

SAN DIEGO CHAPTER, CALIFORNIA ACADEMY OF GENERAL PRACTICE Sixth Annual Meeting. November 9 through 11, Riviera Hotel, Las Vegas. *Contact:* George H. Burkhardt, M.D., 514 Third Ave., Chula Vista.

CALIFORNIA ACADEMY OF GENERAL PRACTICE CONFERENCE ON MEDICAL AUDITS. November 15, 10:00 a.m. to 5:00 p.m., Jack Tar Hotel, San Francisco. *Contact:* William W. Rogers, executive secretary, 9 First Street, San Francisco 5.

CALIFORNIA ACADEMY OF GENERAL PRACTICE CONFERENCE ON MEDICAL AUDITS. November 16, 10:00 a.m. to 5:00 p.m., Huntington-Sheraton Hotel, Pasadena. *Contact:* William W. Rogers, executive secretary, 9 First Street San Francisco 5.

WESTERN CONFERENCE ON FIBRINOLYSIS. Saturday, November 18, 9:00 a.m. to 5:00 p.m., at the Sheraton-Palace Hotel, San Francisco. Advance registration is required. No registration fee. *Contact:* Arthur Selzer, M.D., chairman, Education Committee, Presbyterian Medical Center, Clay and Webster Streets, San Francisco 15. WEst 1-8000, Ext. 303 or 414.

INTERNATIONAL COLLEGE OF SURGEONS, NORTHERN CALIFORNIA CHAPTER, Western Regional Meeting. Monday through Thursday, November 19 through 22, Mark Hopkins Hotel, San Francisco. *Contact:* Miss Sara Abrams, executive secretary, 1090 Francisco Street, San Francisco 9.

PACIFIC COAST COLLEGE HEALTH ASSOCIATION. November 20 through 22, Claremont Hotel, Berkeley. *Contact:* Henry B. Bruyn, M.D., chairman, Cowell Memorial Hospital, University of California, Berkeley 4.

AMERICAN SOCIETY OF HEMATOLOGY Fourth Annual Meeting at the Hotel Ambassador, Los Angeles, November 27 through 29. Registration fee \$10.00 for nonmembers. *Contact:* John Rebuck, M.D., secretary, Henry Ford Hospital, Detroit, Michigan.

WESTERN SURGICAL ASSOCIATION, November 29 through December 1, St. Francis Hotel, San Francisco. *Contact:* Walter W. Carroll, M.D., secretary, 700 N. Michigan Ave., Chicago 11.

DECEMBER MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS Seventh Annual Postgraduate Course on Diseases of the Chest, December 4 through 8, 9:00 a.m. to 5:00 p.m. daily, Statler Hilton Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut Street, Chicago 11, Illinois.

POSTGRADUATE COURSE IN CARDIOLOGY. December 5 through 8. Institute for Cardio-Pulmonary Diseases. Scripps Clinic and Research Foundation, La Jolla, California. *Contact:* John Carson, M.D., associate program director, Scripps Clinic, La Jolla.

1962 MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Sixth Midwinter Professional Symposium, January 10. Statler Hilton Hotel, Los Angeles. *Contact:* Robert Stivelman, M.D., chairman, Professional Symposium Committee, Los Angeles County Heart Association, 2405 W. 8th Street, Los Angeles 57.

CENTRAL CALIFORNIA PHYSICIANS CARDIOVASCULAR SYMPOSIUM with Fresno County Heart Association. Friday, January 19, 8:30 a.m. to 5:00 p.m. at the Fresno Elks Club. *Contact:* Frances Cuthbertson, executive director, Fresno County Heart Association.

ST. JOSEPH'S HOSPITAL ANNUAL MEDICAL ASSEMBLY. "Practical Consideration of Infectious Diseases." January 19 and 20. St. Joseph's Hospital Auditorium, Burbank. *Contact:* A. M. Heyman, M.D., 10730 Riverside Drive, North Hollywood.

FIRST INTER-AMERICAN CONFERENCE ON CONGENITAL DEFECTS. January 22 through 24, Los Angeles. *For registration contact* not later than November 15, 1961: Secretariat: First Inter-American Conference on Congenital Defects, University Park Post Office, Los Angeles 7.

AMERICAN COLLEGE OF SURGEONS Sectional Meeting. Statler-Hilton and Biltmore Hotels, Los Angeles. January 29 through February 1. *Contact:* William E. Adams, M.D., secretary, 40 E. Erie Street, Chicago 11.

FOURTEENTH ANNUAL MIDWINTER RADIOLOGICAL CONFERENCE sponsored by Los Angeles Radiological Society, February 3 and 4, Biltmore Hotel, Los Angeles. Fee: \$25.00 includes two luncheon meetings. Banquet, Saturday evening, Biltmore Bowl, \$7.50 per person. *Contact:* V. G. Mikity, M.D., 2010 Wilshire Blvd., Los Angeles 57.

CONTRA COSTA COUNTY HEART ASSOCIATION Postgraduate Course for Physicians. Eight Monday evenings beginning February 5, 8 p.m. to 10 p.m., Contra Costa County Hospital. *Contact:* Mrs. Loyse C. Casebolt, executive director, 2030 N. Main St., Walnut Creek.

TUBERCULOSIS AND HEALTH ASSOCIATION OF CALIFORNIA Annual Meeting. El Cortez Hotel, San Diego, February 7 through 10. *Contact:* Mr. Wm. Phraener, coordinator, public relations, 130 Hayes Street, San Francisco.

AMERICAN COLLEGE OF PHYSICIANS ANNUAL SOUTHERN CALIFORNIA Regional Meeting. El Mirador Hotel, Palm Springs, February 16 through 18. *Contact:* George C. Griffith, M.D., governor, Box 25, 1200 North State Street, Los Angeles 33.

PACIFIC COAST SURGICAL ASSOCIATION Annual Meeting. Sheraton Hotel, Portland, Oregon, February 18 through 21. *Contact:* Carleton Mathewson, M.D., Presbyterian Medical Center, San Francisco.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series. Evening of March 6 and all day March 7, Statler Hotel, Los Angeles. *Contact:* R. W. Watson, 504 So. Sierra Madre Boulevard, Pasadena.

ANESTHESIA SECTION OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION Seventh Annual Spring Postgraduate Meeting. Statler Hilton, Los Angeles. March 10 and 11. *Contact:* Thomas W. McIntosh, M.D., 686 East Union Street, Pasadena.

COLLEGE OF MEDICAL EVANGELISTS Alumni Postgraduate Convention. March 13 through 15, 1962, Ambassador Hotel, Los Angeles. *Contact:* Kenneth H. Abbott, M.D., general chairman, 316 No. Bailey Ave., Los Angeles 33.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, INC., Biltmore Hotel, Los Angeles, March 21 through 24. *Contact:* Dr. Marion F. Langer, 1790 Broadway, New York 19.

INTERNATIONAL COLLEGE OF APPLIED NUTRITION Annual Convention. Huntington-Sheraton Hotel, Pasadena, March 22 and 23. *Contact:* Donald C. Collins, M.D., secretary, Suite 503, 7046 Hollywood Blvd., Hollywood 28.

LOS ANGELES ORTHOPAEDIC HOSPITAL AND UNIVERSITY OF SOUTHERN CALIFORNIA Extension Course: Fractures in Children. March 27 and 28, 8:30 a.m. to 5:00 p.m., Orthopaedic Hospital, 2400 South Flower Street, Los Angeles. *Contact:* Robert Mazet, Jr., M.D., director of research, 2400 So. Flower St., Los Angeles 7.

AMERICAN ACADEMY OF GENERAL PRACTICE, Las Vegas, Nevada. April 6 through 13. *Contact:* Mr. Mac F. Cahal, executive director, Volker Blvd. at Brookside, Kansas City 12, Mo.

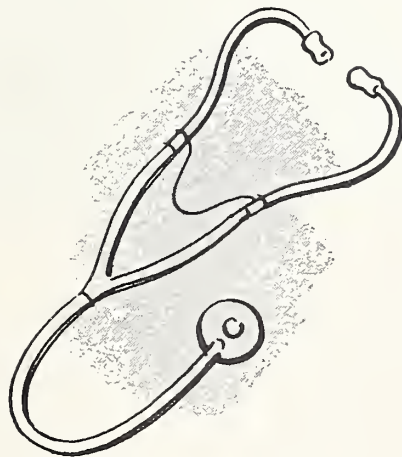
CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION ANNUAL MEETING April 7 and 8, Sir Francis Drake Hotel, San Francisco. April 7: 9 a.m. to 5 p.m. April 8: 9 a.m. to 3 p.m. *Contact:* Helen Goldman, president, 693 Sutter Street, San Francisco.

California Medical Association Annual Session, Fairmont Hotel, San Francisco. April 15 through 18, 1962. *Contact:* John Hunton, executive secretary, 693 Sutter St., San Francisco 2, or Ed Clancy, director of public relations, 2975 Wilshire Blvd., Los Angeles 5.

PACIFIC DERMATOLOGIC ASSOCIATION, INC., Fourteenth Annual Meeting. Fairmont Hotel, San Francisco, April 18 through 21. *C.M.A. Dermatological Section meeting* the morning of April 18. *Contact:* Edward J. Ringrose, M.D., 2828 Telegraph Avenue, Berkeley 5.

CALIFORNIA HEART ASSOCIATION ANNUAL MEETING, Rickety's Studio Inn, Palo Alto, May 18 through 20. *Contact:* Brian O'Connell, executive director, California Heart Association, 1370 Mission Street, San Francisco 3.

AMERICAN PUBLIC HEALTH ASSOCIATION WESTERN BRANCH Annual meeting. Sheraton-Portland Hotel, Portland. June 4 through 8. *Contact:* Robert E. Mytinger, director, executive office, 693 Sutter Street, San Francisco 2.





THE PHYSICIAN'S *Bookshelf*

PROCEEDINGS OF THE FOURTH NATIONAL CANCER CONFERENCE—University of Minnesota, Minneapolis, Minnesota, September 13 to 15, 1960—Sponsored by American Cancer Society, Inc., and National Cancer Institute, U. S. Public Health Service. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 774 pages, \$9.00.

The theme of the Fourth National Cancer Conference was "Changing Concepts." In a keynote address, Shimkin requested that the panelists emphasize the importance of clinical investigation where established facts do not fit prevailing beliefs. The reviewer is unhappy to report that little heed was paid to this injunction. A notable example of this disregard for facts was the conclusion of the panel on cancer of the lung, that improvement must be sought in the earliest possible detection of lung cancer while it is still a localized lesion. Such devotion to dogma is a well nigh incredible refusal of clinicians to face facts. Guiss has shown that, in cases discovered by a mass x-ray survey in Los Angeles, the most important prognostic factor was an asymptomatic patient, but the size of the primary lesion bore no relation either to resectability or curability. Further evidence of the difference in lung cancer as between males and females was demonstrated by a significant difference in survival after resection of localized lesions—30 per cent for males, 62 per cent for females, in terms of survival for 5 years.

Some interesting observations culled from the eight panels (breast, lung, female genital tract, gastrointestinal tract, male genitourinary tract, leukemias and lymphomas, skin, head and neck) include the following. Preoperative irradiation for rectal carcinoma may provide a significant improvement in survival. Single-stage radical vulvectomy for vulvar carcinoma has produced five-year survival figures as high as 70 per cent. Extracts and concentrates from human neoplasms have been inoculated into tissue cultures and newborn hamsters and mice by Sarah Stewart of the National Cancer Institute, discoverer of the polyoma virus. In carefully controlled studies, she was unable to demonstrate oncogenic viruses in human tissue from patients with leukemia of myelogenous and lymphocytic types, both acute and chronic, melanoma, Wilms' tumor, neuroblastoma, papilloma of the tongue, a mesenchymal neoplasm and urine specimens from five cancer patients. In the therapy of lymphoblastomas, the superiority of irradiation for Hodgkin's disease was again demonstrated, while chlorambucil was favored for chronic lymphatic leukemia.

It is disturbing to learn that only 85 per cent of the squamous carcinoma of the skin is being controlled permanently, that 3,000 to 5,000 are dying of skin cancer yearly in the U. S. This is the same rate as noted in the previous decade. This evoked a cry for education of physicians in "early" diagnosis; to me it seems more likely that some part of this 15 per cent represent the biologically unresponsive cases, incurable by present means of therapy.

In survival rates the California Tumor Registry made notable contributions, including two special presentations by the supervisor, George Linden, M.P.H. Survival experience with a sample of 212,638 patient from 99 hospitals is presented in a figure at the end of the volume, comparing crude 5-year survival rates for 24 anatomic sites for types of cancer, for cases diagnosed before 1950, for males and females separately, with the same rates in cases diagnosed since 1950. The instances in which the difference is more than chance are as follows: Colon, up 7 per cent in both sexes, to 28 per cent in males and 34 per cent in females; uterine cervix and corpus, 53 per cent and 65 per cent for the latter years, or increases of +6 per cent and +5 per cent; thyroid gland, up 6 and 12 per cent, males and females; basal cell carcinoma of skin, off 9 per cent in males, and less by 5 per cent in females (to 71 and 80 per cent). The latter is difficult to explain, but something of a national disgrace.

This volume belongs in the library of anyone with more than a desultory interest in cancer therapy. The book is handsomely bound, and of the same admirable format in which the journal *Cancer* is printed.

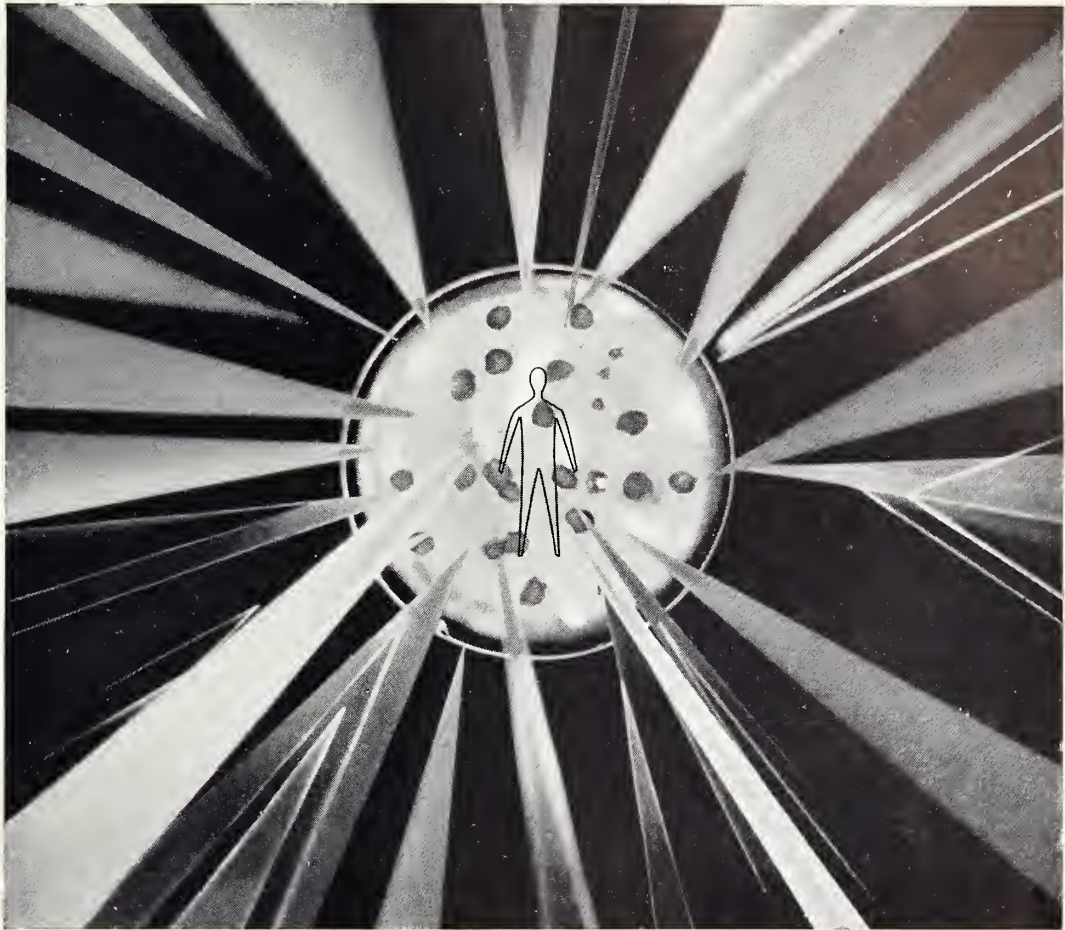
IAN MACDONALD, M.D.

* * *

RECOGNIZING THE DEPRESSED PATIENT—With *Essentials of Management and Treatment*—Frank J. Ayd, Jr., M.D., Diplomate, American Board of Neurology and Psychiatry; Fellow, American Psychiatric Association; Chief of Psychiatry, Franklin Square Hospital, Baltimore, Maryland. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1961. 138 pages, \$3.75.

As the author states, depressions are among the most common illnesses encountered by the general practitioner. Because of the great variety of presenting complaints in these conditions, depressive illnesses are not properly diagnosed in the early stages. The author has written this monograph to assist the nonpsychiatrist in the recognition of depressive illnesses. The material in this book is based upon a review of 500 cases of depressive illness and upon the author's personal experience. Among others, the chapter titles include: Physical Symptoms, Emotional Symptoms, Psychic Symptoms, Suicide and Homicide, and Treatment. The organization of each chapter into many small sections makes for ease of reading. One might quarrel with the author's tendency to ascribe etiology primarily to diencephalic malfunction. Although psychodynamic formations are minimized both in etiology and treatment, the author does display a sensitivity and concern regarding the importance of the physician-patient relationship. This little book has a practical orientation, and may be read with profit by any physician. Even experienced psychiatrists will find points of interest. Some case history material is included and a brief bibliography is appended.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.

A MIRROR UP TO MEDICINE—A. C. Corcoran, M.D. With a Preface by Allan Nevins. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 506 pages, \$5.75.

A SYNOPSIS OF PUBLIC HEALTH AND SOCIAL MEDICINE—A. J. Essex-Cater, M.R.C.S., L.R.C.P., D.C.H., D.P.H., D.L.H., F.R.A.I., Administrative Medical Officer of Health, City of Birmingham; Part-time Lecturer in Child Welfare, University of Birmingham. With a Foreword by J. M. Mackintosh, M.A., M.D., LL.D., F.R.C.P., Barrister-at-Law; Director, Education and Training Division, World Health Organization. The Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1960. 563 pages, \$11.00.

ATLAS OF SURGICAL OPERATIONS—Third Edition—Robert M. Zollinger, Professor and Chairman of the Department of Surgery, Ohio State University College of Medicine, and Chief of the Surgical Service, University Hospitals, Ohio State University; and Elliott C. Cutler, Late Moseley Professor of Surgery, Harvard University, and Chief Surgeon, Peter Bent Brigham Hospital. Illustrations by Mildred B. Codding and Paul Fairchild. The Macmillan Company, 60 Fifth Avenue, New York 11, N. Y., 1961. 237 pages, \$18.00.

THE CERVIX UTERI—And Its Diseases—C. Frederic Fluhmann, B.A., M.D., C.M., Chief of Obstetrics and Gynecology, Presbyterian Medical Center, San Francisco, California; Clinical Professor of Obstetrics and Gynecology, Stanford University School of Medicine, Palo Alto, California. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 556 pages, \$14.00.

NEW BOOK

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CIBA FOUNDATION STUDY GROUP NO. 8—Problems of Pulmonary Circulation—in honour of Prof. G. Liljestrand. A. V. S. de Reuck, M.Sc., D.I.C., A.R.C.S., and Maeve O'Connor, B.A., editors for the Ciba Foundation. Little, Brown & Co., 34 Beacon Street, Boston 6, Massachusetts, 1961. 96 pages, \$2.50.

CLINICAL HEMATOLOGY—5th Edition, Thoroughly Revised—Maxwell M. Wintrobe, M.D., Ph.D., D.Sc. (Hon.), Professor and Head, Department of Medicine and Director, Laboratory for the Study of Hereditary and Metabolic Disorders, University of Utah, College of Medicine, Salt Lake City, Utah. Lea & Febiger, Washington Square, Philadelphia 6, Pa., 1961. 1186 pages, \$18.50.

THE CRY FOR HELP—edited by Norman L. Farberow, Ph.D., and Edwin S. Schneidman, Ph.D. Foreword by Robert H. Felix, M.D. The Blakiston Division, McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 36, N. Y., 1961. 398 pages, \$9.95.

HANDBOOK ON CLINICAL ELECTROMYOGRAPHY—Robert B. Pearson, M.D., Associate Professor of Physiology, Loma Linda University School of Medicine. The Meditron Company (A Division of Crescent Engineering & Research Company), 5440 North Peck Road, El Monte, California, 1961. Paper-bound book—72 pages. No price quoted.

MAYO CLINIC DIET MANUAL—THIRD EDITION—Committee on Dietetics of the Mayo Clinic. W. B. Saunders Company, Philadelphia, 1961. 222 pages, \$5.50.

MEDICINE AND THE NAVY—1200-1900—Volume III-1714-1815. Christopher Lloyd, F.R.Hist.S., Assistant Professor, Royal Navy College, Greenwich, and Jack L. S. Coulter, F.R.C.S., Surgeon Captain, Royal Naval Medical School. Foreword by Surgeon Vice-Admiral Sir Cyril May, K.B.E., C.B., M.C., F.R.C.S., Late Medical Director General of the Navy. The Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1961. 402 pages, \$10.00.

MEDICINE SHOW, THE—Some Plain Truths About Popular Remedies for Common Ailments—A Consumers Union Publication (By the Editors of Consumers Reports). Simon and Schuster, publishers, 630 Fifth Avenue, Rockefeller Center, New York 20, N. Y., 1961. 250 pages, \$1.50 paper, \$3.95 cloth.

NURSING HOME ADMINISTRATION—Training Materials for Administrators of Nursing, Boarding, and Mental Hygiene Homes for the Aged—John D. Gerletti, Ed. D., Educational Coordinator, Attending Staff Association; Professor of Public Administration, University of Southern California; C. C. Crawford, Ph.D., Educational Consultant, Attending Staff Association; Emeritus Professor of Education, University of Southern California; and Donovan J. Perkins, M.S., Business Manager, Attending Staff Association. Published by the Attending Staff Association, 7601 E. Imperial Highway, Downey, Calif., 1961. 472 pages, \$6.50.

PATHOLOGY—Fourth Edition—edited by W. A. D. Anderson, M.A., M.D., F.A.C.P., F.C.A.P., Professor of Pathology and Chairman of the Department of Pathology, University of Miami School of Medicine; and Director of the Pathology Laboratories, Jackson Memorial Hospital, Miami, Florida. The C. V. Mosby Company, St. Louis, Mo., 1961. 1389 pages, with 1385 illustrations and 7 Color Plates, \$18.00.

THE PHARMACOLOGIC PRINCIPLES OF MEDICAL PRACTICE—A Textbook on Pharmacology and Therapeutics for Medical Students, Physicians, and the Members of the Professions Allied to Medicine—5th Edition—John C. Krantz, Jr., Professor of Pharmacology, School of Medicine, University of Maryland; and C. Jelleff Carr, Chief, Pharmacology Unit, Psychopharmacology Service Center, National Institute of Mental Health. The Williams & Wilkins Company, Baltimore 2, Maryland, 1961. 1498 pages, \$15.00.

PRACTICAL PEDIATRIC DERMATOLOGY—Second Edition—Morris Leider, Associate Professor of Dermatology and Syphilology, New York University Postgraduate Medical School, New York, N. Y.; Visiting Physician in Charge, Service of Dermatology, Bellevue Hospital, New York, N. Y.; Associate Attending Physician, University Hospital and New York University-Bellevue Med-

(Continued on Page 58)

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1. Parsons, D. J.: Asthma, bronchitis, rhinitis and sinusitis. Adjunctive treatment with intramuscular chymotrypsin, *Clin. Med.* 5:11, 1958. 2. Teitel, L. H., et al.: Clinical observations with chymotrypsin, *Indust. Med.* 29:150, 1960. 3. Taub, S. J.: Chymotrypsin therapy of bronchial asthma, *Clin. Med.* 7:2575, 1960.



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Surgery of Colon & Rectum.....	One Week, Nov. 27
Surgical Board Review, Part II.....	Two Weeks, Nov. 27
General Surgery.....	One Week, March 5
General Surgery.....	Two Weeks, Dec. 11
Gynecology, Office & Operative.....	Two Weeks, April 9
Vaginal Approach to Pelvic Surgery.....	One Week, Dec. 18, Jan. 9
Obstetrics, General & Surgical.....	Two Weeks, Nov. 27, March 12
Fractures & Traumatic Surgery.....	Two Weeks, March 5
Advances in Medicine.....	One Week, Nov. 27
Practical Cystoscopy.....	Two Weeks, Dec. 11, Jan. 8
Proctoscopy and Sigmoidoscopy.....	One Week, Dec. 18, Jan. 29
Treatment of Varicose Veins.....	One Week, Dec. 18, Jan. 29
Clinical Courses, One Week or More, by appointment in: Fractures, Orthopedics, Pediatrics, Dermatology, Diagnostic Radiology, Ophthalmology, Otolaryngol- ogy.	

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BOOKS RECEIVED

(Continued from Page 54)

ical Center, New York, N. Y.; Diplomate of the American Board of Dermatology and Syphilology. The C. V. Mosby Co., 3207 Washington Boulevard, St. Louis 3, Mo., 1961. 437 pages, \$13.75.

THE PSYCHOLOGICAL CARE OF THE CHILD IN HOSPITAL—Agatha H. Bowley, Ph.D., F.B.Psy.S., Educational Psychologist, Royal National Institute for the Blind, Cheyne Centre for Spastic Children, and Queen Elizabeth Hospital for Children, London. The Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U. S. agents, 1961. Paper-bound booklet, \$1.50.

PSYCHOPATHOLOGY OF AGING—edited by Paul H. Hoch, M.D., Department of Mental Hygiene, State of New York; College of Physicians and Surgeons, Columbia University, New York City; and Joseph Zubin, Ph.D., Department of Mental Hygiene, State of New York; Department of Psychology, Columbia University, New York City. The Proceedings of The Fiftieth Annual Meeting of The American Psychopathological Association, held in New York City, February 1960. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 321 pages, \$9.75.

RESPIRATION IN HEALTH AND DISEASE—R. M. Cherniack, M.D., M.Sc., F.R.C.P.(C.), Assistant Professor of Medicine, University of Manitoba School of Medicine; Director, Respiratory Division, Clinical Investigation Unit, and Assistant Physician, Winnipeg General Hospital; and L. Cherniack, M.D., M.R.C.P.(Lond.), F.R.C.P.(C.), F.A.C.P., Assistant Professor of Medicine, University of Manitoba School of Medicine. Illustrated by Nancy Joy, A.O.C.A., Assistant Professor of Medical Illustration, University of Manitoba School of Medicine, Winnipeg, Canada. W. B. Saunders Company, West Washington Square, Philadelphia 5, Pa., 1961. 403 pages, \$10.50.

SCIENTIFIC ASPECTS OF NEUROLOGY—Leeds Neurological Sciences Colloquium, 1959-60. Edited by Hugh Garland, T.D., M.D., F.R.C.P., Neurologist, The General Infirmary at Leeds; Consultant Neurologist, Leeds Regional Hospital Board; Senior Clinical Lecturer in Neurology, University of Leeds. The Williams & Wilkins Company, Baltimore 2, Maryland, exclusive U. S. agents, 1961. 264 pages, \$9.75.

THE STAGES OF HUMAN DEVELOPMENT BEFORE BIRTH—An Introduction to Human Embryology—E. Blechschmidt, M.D., Professor of Anatomy, Director of the Institute of Anatomy, University of Göttingen. W. B. Saunders Company, Philadelphia, Pa., 1961. 684 pages, \$23.00.

TEXTBOOK OF MEDICAL TREATMENT—8th Edition—by Various Authors. Edited by Sir Derrick Dunlop, B.A. (Oxon.), M.D., F.R.C.P.(Ed.), F.R.C.P.(Lond.), Professor of Therapeutics and Clinical Medicine, University of Edinburgh; Physician, Royal Infirmary, Edinburgh; Sir Stanley Davidson, B.A., M.D., Hon.M.D.(Oslo), F.R.C.P.(Ed.), F.R.C.P.(Lond.), Professor of Medicine, University of Edinburgh, 1938-59; and S. Alstead, C.B.E., M.D., F.R.C.P.(Ed.), F.R.C.P.(Lond.), F.R.F.P.S., Regius Professor of Materia Medica and Therapeutics, Glasgow University; Physician, Stobhill General Hospital, Glasgow. The Williams & Wilkins Co., Baltimore, exclusive U. S. agents, 1961. 983 pages, \$12.50.

THERAPEUTIC EXERCISE—Second Edition—edited by Sidney Licht, M.D., Honorary Member, British Association of Physical Medicine, Danish Society of Physical Medicine, and the French National Society of Physical Medicine. Assisted by Ernest W. Johnson, M.D., Associate Professor of Physical Medicine and Rehabilitation, Ohio State University College of Medicine. Elizabeth Licht, Publisher, 360 Fountain Street, New Haven, Connecticut.

THERAPEUTIC EXERCISES—KINESIOTHERAPY—O. Leonard Huddleston, M.D., Ph.D., Medical Director, California Rehabilitation Center, Santa Monica, California; Clinical Professor of Physical Medicine, School of Medicine, University of Southern California, Los Angeles, California. F. A. Davis Co., publishers, Philadelphia 3, Pa., 1961. 205 pages, \$9.50.

TRAITOR WITHIN—OUR SUICIDE PROBLEM—Edward Robb Ellis and George N. Allen. Doubleday & Company, Inc., 575 Madison Avenue, New York 22, New York, 1961. 237 pages, \$3.95.

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Electric Shock Restores Normal Heart Beat

An externally applied electric shock has proved effective in restoring to normal a dangerously rapid heart beat, three Boston physicians reported recently.

Writing in the September 30 *Journal of the American Medical Association*, Drs. Sidney Alexander, Robert Kleiger and Bernard Lown said the electric shock method was used in treating a 59-year-old man when he failed to respond to drugs.

Two episodes, in which the patient's heart rate reached 190 and 200 beats per minute, were corrected by electric shocks of 250 and 350 volts respectively, they said. The shocks were adminis-

tered during general anesthesia, they said. A normal heart beat could be maintained after the second shock treatment with drugs, they said.

The method was termed "a promising new approach" to treatment of such conditions in an accompanying *Journal* editorial. It has the advantages of being easily administered, producing immediate results, causing no lasting depression of heart function and no serious after effects, the editorial said.

Previous use of electric shock generally has been as an emergency measure for other types of heart disorders, the Boston physicians said. The case described in the *Journal* is believed to be the first report of the method being used for the condition known as paroxysmal ventricular tachycardia.

The most common cause of this type of abnormal heart beat is coronary disease and it frequently occurs within a few days after a heart attack. The condition is serious because it can lead to an invariably fatal heart action. However, the majority of cases can be controlled with drugs, the authors pointed out.

The development of closed-chest heart massage makes possible wider use of electric shock treatment for such a condition when drugs are not effective, they added. The rhythmic compression of the heart area of the chest can maintain the victim's circulation long enough to obtain the necessary equipment for electric shock therapy, they said.

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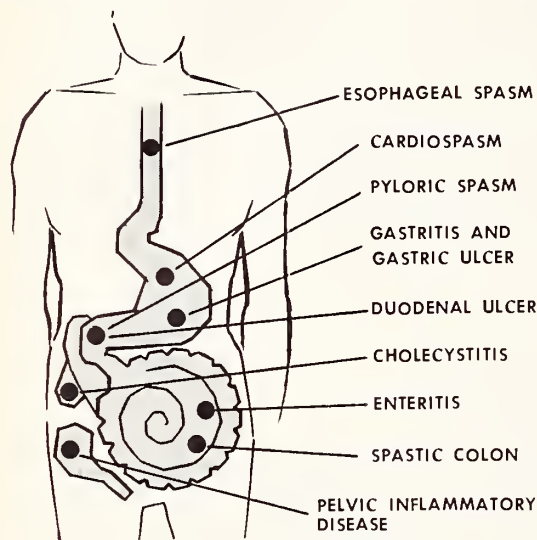
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Depression May Underlie Poor Nutrition

Mental depression is more often a cause of poor nutrition than an effect, according to Dr. William Bolton of the American Medical Association.

"Without question, depression is much more commonly a cause of poor nutrition than a result," Dr. Bolton said in the October *Today's Health* magazine, published by the A.M.A. "In fact, deterioration of the nutritional state may be the first indication that some mental abnormality is developing."

Dr. Bolton added:

"Anyone who shows evidence of undernutrition should have a thorough physical study by a physician, since self-treatment of this is just as unwise as is self-treatment of obesity. Such a study would reveal any undiscovered mental depression."

Contact Lenses Successful In 234 of 300 Cases

Contact lenses prescribed and fitted for 300 patients by an ophthalmologist proved successful in 78 per cent.

Dr. John R. Cassady, South Bend, Ind., reported on the series of patients in the September *Archives of Ophthalmology*, published by the American Medical Association.

Of the total group, 234 were able to wear the lenses at least 10 hours a day for at least 6 months, Dr. Cassady reported. There were 32 failures, he said. The remaining 34 patients could not be followed up, he said.

There were 98 men and 202 women in the series. The largest number of patients were between 15 and 30 years of age, he said, and this group had the highest percentage of success in wearing contact lenses.

Patients with nearsightedness constituted 65 per cent of the entire group, he said.

Complications occurred in 18 patients, or 6 per cent, he said. Most complications occurred when wearing time was increased much more rapidly than recommended or when prolonged periods of wearing were attempted, he said.

At least one lens adjustment was necessary in more than half of the patients, he said.

When the contact lenses were inserted for the first time, Dr. Cassady said, the patients wore them for about five hours in his office. The patients were given instructions on their insertion and removal and told to increase wearing them by half an hour each day, he said.

The patients were examined one week after they began wearing the lenses and again two weeks later, he said. For four months, they were seen at monthly intervals and every six months thereafter, he said, although this routine was varied depending on the difficulty encountered.

Most patients, he said, were wearing the lenses 10 to 12 hours a day by the third week.

Nucleomitophobia Becomes Popular

The nuclear age has created a new phobia—nucleomitophobia, or fear of the atom.

Public officials are receiving a rash of calls for help from frantic persons who believe they are radioactive, according to a brief item in *Today's Health* magazine, published by the American Medical Association.

Dr. Milton A. Dushkin, medical director of North Shore Hospital, Winnetka, Ill., said complaints range from submarines on Lake Michigan shooting mysterious rays inland to women's hair curlers being charged with radioactivity from unidentified flying objects.

"It's a product of the age," explained Dr. Dushkin.

"When a person feels overwhelmed by feelings of insecurity and frustrations beyond his control, he must find a scapegoat. Anything popular will do. Nowadays it's fashionable for the emotionally ill to blame their confused state on radioactivity in their environment."

Elevated Cholesterol Found In Stroke Victims

Elevated cholesterol levels have been found in persons who have suffered a stroke as a result of hardening of the cerebral arteries, three medical researchers reported recently.

Albert Heyman, M.D., and E. Harvey Estes Jr., M.D., Duke University Medical Center, Durham, N. C., and M. Dean Nefzger, Ph.D., National Research Council, Washington, D. C., on the basis of their finding, recommended cholesterol-reducing measures for patients with this condition.

Their report is contained in the September *Archives of Neurology*, published by the American Medical Association.

The cholesterol level of 68 men who had suffered this type of stroke was compared with the cholesterol of a comparable group of men with no signs of hardening of the arteries, the authors said. The mean cholesterol level in the stroke victims was "significantly higher" than that observed in the comparison group, they said.

The development of hardening of the arteries is considered by many medical investigators to be associated with elevated cholesterol levels, they said. Although dietary restriction of fat and the administration of cholesterol-reducing agents are commonly advised in patients with hardening of the coronary arteries, they said, these measures are not as routinely prescribed for the patient with hardening of the cerebral arteries.

However, the authors said, the high level of cholesterol found in this series of stroke victims suggests the need for cholesterol-reducing measures in these patients in an attempt to prevent progression of the cerebral vascular disease and recurrent strokes.



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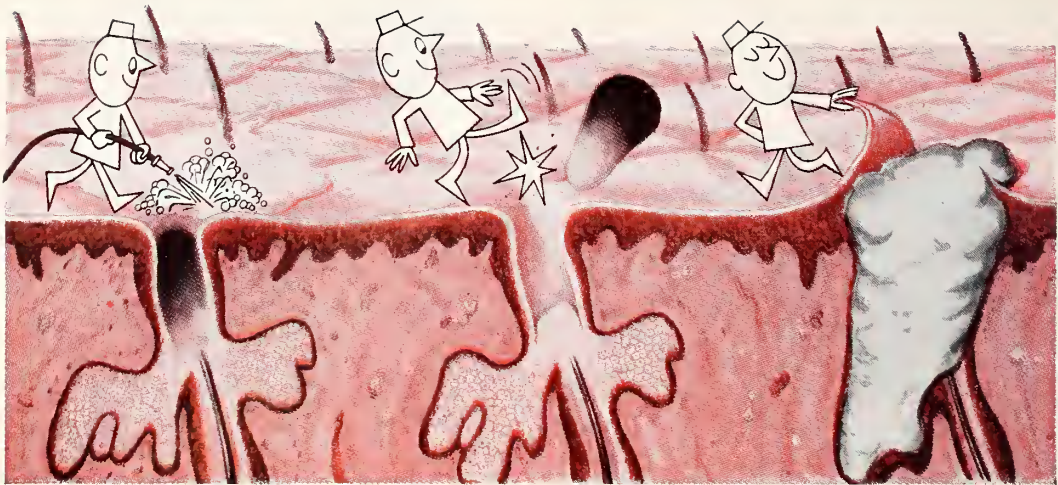
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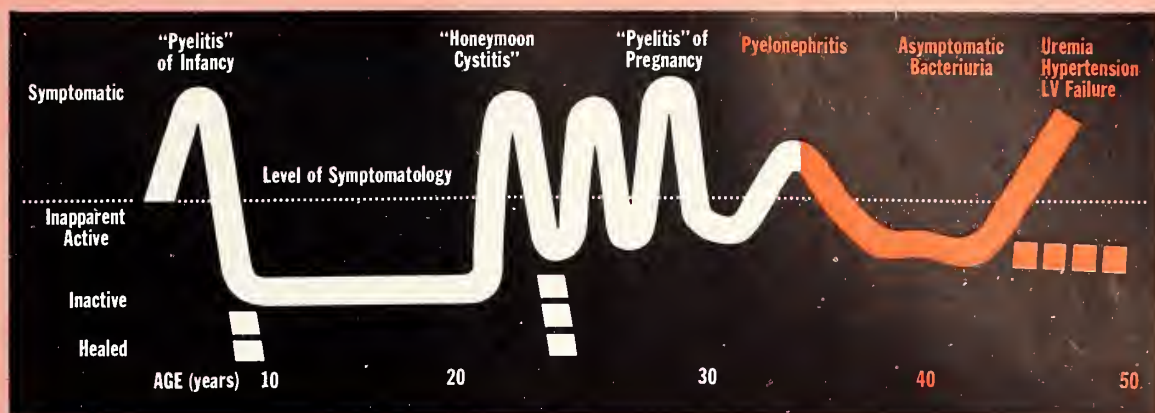
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REFERENCES: 1. Birchall, R.: *Am. Practit.* 11:918, 1960. 2. Jawetz, E., et al.: *A.M.A. Arch. Intern. Med.* 100:549, 1957. 3. Lippman, R. W., et al.: *J. Urol.* 80:77, 1958.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.

APPRAISAL OF CURRENT CONCEPTS IN ANESTHESIOLOGY—Edited and assembled by John Adriani, M.D., Professor of Surgery, Tulane University School of Medicine, New Orleans, La.; Clinical Professor of Surgery and Pharmacology, Louisiana State University School of Medicine, New Orleans, La.; Director, Department of Anesthesiology, Charity Hospital of Louisiana, New Orleans, La. The C. V. Mosby Company, St. Louis, Mo., 1961. 279 pages, \$7.75.

BOYS IN WHITE—Student Culture in Medical School—Howard S. Becker, Blanche Geer, Everett C. Hughes, and Anselm L. Strauss. The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois, 1961. 456 pages, \$10.00.

CLINICAL OBSTETRICS—Benjamin Tenney, M.D., Clinical Professor of Obstetrics and Gynecology, Harvard Medical School; Director of the Department of Obstetrics and Gynecology, The Boston City Hospital; and Brian Little, M.D., F.R.C.S. (C), Associate in Obstetrics and Gynecology, Harvard Medical School; Associate Director of the Department of Obstetrics and Gynecology, The Boston City Hospital; Obstetrician and Gynecologist, Boston Lying-in Hospital. W. B. Saunders Company, Philadelphia, Pennsylvania, 1961. 440 pages, \$8.50.

CLINICAL OBSTETRICS AND GYNECOLOGY—Volume 4, Number 3, September 1961—Ovarian Tumors, edited by Langdon Parsons, M.D., and Cardiovascular-Renal Problems in Pregnancy, edited by Russell R. De Alvarez, M.D. A Quarterly Book Series, published by Paul B. Hoeber, Inc., Medical Division of Harper & Brothers, 49 East 33rd Street, New York 16, N.Y., 1961. \$18.00 a year for four consecutive issues published quarterly (sold by subscription only).

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DAVID EDWARDES INTRODUCTION TO ANATOMY (1532)—A Facsimile Reproduction With English Translation and an Introductory Essay on Anatomical Studies in Tudor England—by C. D. O'Malley and K. F. Russell. Stanford University Press, Stanford, California, 1961. 64 pages, \$2.75.

DIFFERENTIATION BETWEEN NORMAL AND ABNORMAL IN ELECTROCARDIOGRAPHY—Ernst Simonson, M.D., Professor of Physiological Hygiene, University of Minnesota, Minneapolis, Minn.; Consultant in Electrocardiography at Mt. Sinai Hospital and Veterans Administration Hospital, Minneapolis, Minn. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo., 1961. 328 pages, illustrated, \$13.50.

DISTURBANCES OF HEART RATE, RHYTHM AND CONDUCTION—Eliot Corday, M.D., F.A.C.P., F.A.C.C., Assistant Clinical Professor of Medicine, School of Medicine, University of California, Los Angeles; Attending Staff, Cedars of Lebanon and Mt. Sinai Hospitals, Los Angeles; and David W. Irving, M.D., Clinical Assistant, School of Medicine, University of California, Los Angeles; Research Associate, Cedars of Lebanon Hospital, Los Angeles; Research Fellow, Los Angeles County Heart Association. W. B. Saunders Company, Philadelphia, Pennsylvania, 1961. 357 pages, \$8.50.

EXECUTIVES' HEALTH SECRETS—How to Lick Tensions and Pressures—William P. Shepard, M.D., formerly Medical Director of the Metropolitan Life Insurance Company. The Bobbs-Merrill Company, Inc., 3 West 57th Street, New York 19, N.Y., 1961. 268 pages, \$4.95.

GYNECOLOGIC ENDOCRINOLOGY—Edward A. Graber, M.D., Attending Obstetrician and Gynecologist, St. Clares Hospital, New York; Associate Attending Obstetrician and Gynecologist, Lenox Hill Hospital, New York; Diplomate, American Board of Obstetrics and Gynecology; Fellow, American College of Surgeons; Fellow, American College of Obstetricians and Gynecologists. J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1961. 218 pages, \$7.50.

HOME TREATMENT IN INJURY AND OSTEOARTHRITIS—W. E. Tucker, C.V.O., M.B.E., T.D., M.A., M.B., B.Ch., F.R.C.S., Consulting Orthopaedic Surgeon, Royal London Homeopathic Hospital; Consulting Orthopaedic Surgeon, Horsham and Dorking Hospitals. Foreword by Sir Harry Platt, Bt., LL.D., M.D., M.S., F.R.C.S., President, International Federation of Surgical Colleges. The Williams & Wilkins Co., Baltimore 2, Maryland, exclusive U.S. agents, 1961. 80 pages, \$3.00.

IMMUNITY—Second Edition—Sidney Raffel, Sc.D., M.D., Professor, Department of Medical Microbiology, Stanford University School of Medicine. Appleton-Century-Crofts, Inc., 35 West 32nd Street, New York 1, N.Y., 1961. 646 pages, \$10.00.

INTRODUCTION TO ANESTHESIA—The Principles of Safe Practice—Second Edition—Robert D. Dripps, M.D., Professor and Chairman, Department of Anesthesiology, and James E. Eckenhoff, M.D., Professor of Anesthesiology, University of Pennsylvania Schools of Medicine; and Leroy D. Vandam, M.D., Clinical Professor of Anesthesia, Harvard Medical College. Line drawings by Leroy D. Vandam, M.D. W. B. Saunders Company, Philadelphia, 1961. 413 pages, \$8.00.

MECHANISMS OF DISEASE—An Introduction to Pathology—Ruy Perez-Tamayo, M.D., Professor and Director of the Department of Pathology of the School of Medicine, National University of Mexico. W. B. Saunders Company, Philadelphia, 1961. 512 pages, illustrated, \$14.00.

MEDICAL PHYSIOLOGY—Eleventh Edition—edited by Philip Bard, Professor of Physiology, The Johns Hopkins University. The C. V. Mosby Company, St. Louis, Mo., 1961. 1339 pages, \$16.50.

PATHOLOGY OF THE FETUS AND INFANT—Second Edition—Edith L. Potter, M.D., Ph.D., Professor of Pathology, Department of Obstetrics and Gynecology, The University of Chicago; Pathologist, The Chicago Lying-in Hospital. Year Book Medical Publishers, Inc., 200 East Illinois Street, Chicago 11, Illinois, 1961. 670 pages, 681 figures, \$22.00.

PROGRESS IN MEDICAL CHEMISTRY—Volume 1—Edited by G. P. Ellis, B.Sc., Ph.D., F.R.I.C., Research Department, Benger Laboratories Limited, Holmes Chapel, Cheshire; and G. B. West, B. Pharm., D.Sc., Ph.D.,

(Continued on Page 32)

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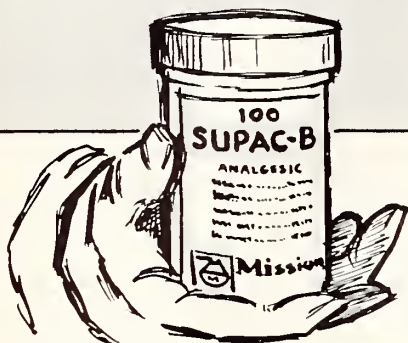
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Eye Exam May Detect Cardiovascular Ill

A sign of hardening of the arteries may be detected in a routine eye examination in persons who have no other symptoms of the disease, according to Dr. Robert W. Hollenhorst, Mayo Clinic, Rochester, Minn.

Dr. Hollenhorst, writing in the October 7 *Journal of the American Medical Association*, reported the observation of bright-colored patches in the blood vessels of the eyes of 31 patients.

In all of the patients subsequently examined for the vascular ailment, the disease was confirmed, he said.

The plaques probably are crystals of cholesterol transported to the retina of the eye from diseased sections of arteries, he said.

Through an ophthalmoscope, an instrument for observing the interior of the eye, the plaques appeared orange, yellow or copper in color, he said. From one to several dozen were seen in each patient, he said.

The plaques were seen mostly in elderly patients, in whom a degree of hardening of the arteries is to be expected, he said. Of the 31 patients, 27 were men, he said.

The possibility of hardening of the arteries should be investigated in all patients in whom such plaques are observed, the ophthalmologist said.



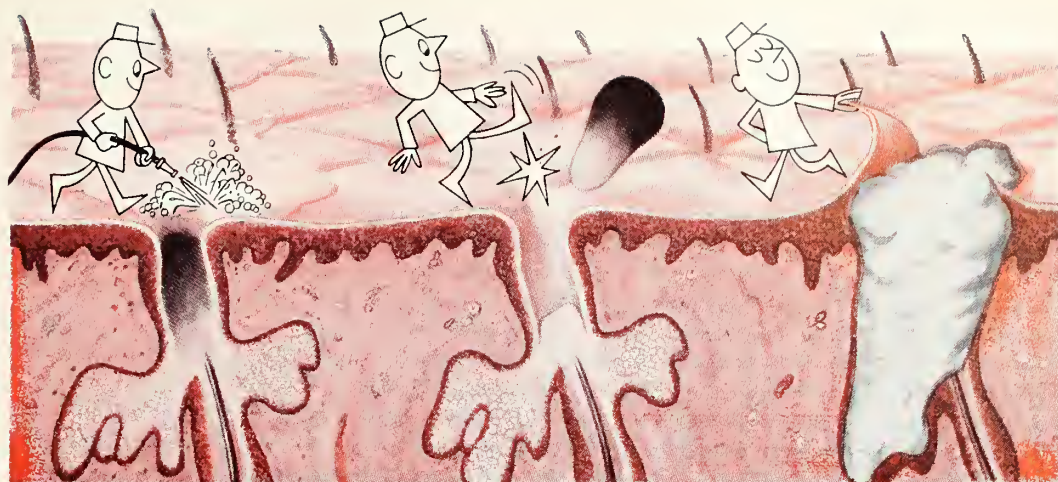
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Skin Disease Linked to Internal Cancer

There is a "significant correlation" between the occurrence of internal cancer and a skin ailment known as Bowen's disease, three Minneapolis physicians have reported.

Bowen's disease is classed as a precancerous condition of the skin.

Drs. Edward S. Peterka, Francis W. Lynch and Robert W. Goltz, University of Minnesota Medical School, urged repeated thorough examination for internal cancer particularly for patients in whom unexposed areas of the skin are affected.

Such examinations can contribute to the recognition of internal cancer before its symptoms appear, they said.

Writing in the October *Archives of Dermatology*, published by the American Medical Association, the authors said they found internal cancer in 11 of 33 patients with Bowen's disease affecting the trunk, arms, and legs.

"Combining these data with information from previous reports one concludes that approximately one-third of patients with Bowen's disease develop evident internal cancer at an average of 6 to 10 years after the initial diagnosis of Bowen's disease."

BOOKS RECEIVED

(Continued from Page 16)

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PSYCHIATRY—Biological and Social—Ian Gregory, M.A., M.D.(Camb.), D.Psych.(Tor.), M.P.H.(Mich.), Assistant Professor of Psychiatry, and Coordinator of Undergraduate Education in Psychiatry, University of Minnesota Medical School. W. B. Saunders Company, Philadelphia, Pennsylvania, 1961. 577 pages, \$10.00.

REHABILITATION OF A CHILD'S EYES—Third Edition of Scobee's "Rehabilitation of a Child's Eyes"—Herbert M. Katzin, M.D., F.A.C.S., Director and Board Member, Eye Bank Laboratory, and Attending Surgeon, Manhattan Eye, Ear and Throat Hospital, New York, N.Y.; and Geraldine Wilson, R.N., Orthopedic Technician, New York, N.Y. The C. V. Mosby Company, St. Louis, Mo., 1961. 107 pages, \$3.75.

SOMATIC STABILITY IN THE NEWLY BORN—Ciba Foundation Symposium—G. E. W. Wolstenholme, O.B.E., M.A., M.B., M.R.C.P., and Maeve O'Connor, B.A., editors for the Ciba Foundation. Little, Brown and Company, 34 Beacon Street, Boston, Massachusetts, 1961. 393 pages, with 63 illustrations, \$10.00.

THE STORY OF X-RAYS FROM ROENTGEN TO ISOTOPES—by Alan Ralph Bleich, B.A., M.D., Assistant Clinical Professor of Radiology, New York Medical College; Clinical Instructor of Radiology, New York University—Bellevue Medical Center, College of Medicine; Diplomate, American Board of Radiology. Dover Publications, Inc., 180 Varick Street, New York 14, N.Y., 1961. 186 pages, \$1.65. (Paperback book.)

THE YEAR BOOK OF OBSTETRICS AND GYNECOLOGY (1961-1962 YEAR BOOK SERIES)—edited by J. P. Greenhill, B.S., M.D., F.A.C.S., F.I.C.S. (Honorary), F.A.C.O.G., Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Senior Attending Obstetrician and Gynecologist, Michael Reese Hospital; Associate Staff, Chicago Lying-in Hospital; Author of Office Gynecology, Surgical Gynecology, Obstetrics in General Practice, Obstetrics (12th ed.) and Analgesia and Anesthesia in Obstetrics. Year Book Medical Publishers, Incorporated, 200 East Illinois Street, Chicago 11, 1961. 584 pages, \$8.00.

Mental Illness in Urban Area Strikes One in Eight

Mental illness is termed "far more disabling and costly" than any comparable group of diseases, according to Dr. Pasamanick, professor of psychiatry at Ohio State University, Columbus, Ohio.

Approximately one in eight urban dwellers (12.5 per cent) is suffering "a more or less serious mental disorder at any given point in time," he said.

About 1 in 40 (2.6 per cent) is "severely or totally impaired by mental or emotional difficulties at any one time," he said in the August *Archives of General Psychiatry*, published by the American Medical Association.

"The group of diseases under the heading of psychiatric disorders is probably as frequent and far more disabling and costly than any comparable group of diseases," he concluded.

Dr. Pasamanick based his statement on a series of studies, conducted in Baltimore, which he said "constitute a relatively complete assessment of the reported, unreported, and public institutionalized cases of mental disorder."

The data studied included records of private and public institutions and a survey of a sample of more than 800 non-institutionalized Baltimore residents, he said.

Although the 1-in-8 rate is lower than some reports, he said, it is much higher than the frequently quoted 1-in-10 figure and other rates based solely on reported and recorded cases. The 1-in-10 figure is based on a study which excluded institutionalized patients, he said.

The Baltimore studies indicated that 7 to 8 per cent of the mental cases were psychotic and about 15 per cent mentally deficient while more than 75 per cent could be classified as psychoneurotics and persons with a character-trait disturbance or a psychosomatic type of disorder, Dr. Pasamanick said.

Life-Saving Operation Removes Blood Clots from Lungs

The first published report of the successful removal of blood clots from the lungs by surgery during use of a heart-lung machine appeared in the August 5 *Journal of the American Medical Association*.

Drs. Denton A. Cooley, Arthur C. Beall, Jr. and James K. Alexander, Baylor University College of Medicine, Houston, Tex., said the patient, a 37-year-old woman, was discharged from the hospital on the 14th day following the operation.

The achievement "should be considered another milestone in cardiovascular surgery," the *Journal* said editorially.

"Their method may lead to saving many similar patients who are otherwise doomed to almost certain death," the editorial said.

(Continued on Page 70)

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General Surgery	One Week, Mar. 5
General Surgery	Two Weeks, Apr. 2
Gynecology, Office & Operative	Two Weeks, Apr. 9
Vaginal Approach to Pelvic Surgery	One Week, Jan. 9
Obstetrics, General & Surgical	Two Weeks, Mar. 12
Fractures & Traumatic Surgery	Two Weeks, Mar. 5
Practical Cystoscopy	Two Weeks, by appointment
Proctoscopy & Sigmoidoscopy	One Week, Jan. 29
Treatment of Varicose Veins	One Week, Jan. 29
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Basophil Emerges As Key Blood Cell

The basophil, a rare, fragile and elusive blood cell which has been relegated to relative obscurity for 70 years, recently was reported to be a key factor in a variety of allergies and cardiovascular ills.

The emerging importance of the basophil is the subject of an article and editorial in the August 12 *Journal of the American Medical Association*.

"It is evident that here is a cell intimately concerned with a variety of critical physiological processes: blood coagulation, fat transport, allergic reactions, and possibly, clot lysis (dissolution)," the editorial said.

The article by Drs. Lennart Juhlin, now at University Hospital, Uppsala, Sweden, and Walter B. Shelley, department of dermatology, University of Pennsylvania School of Medicine, Philadelphia, concerns one of a series of studies designed to establish the role of the basophil in health and disease.

The authors also reported the development of a basophil test which may make it possible to detect allergies in persons before the symptoms occur.

The basophil carries nearly all of the histamine in the blood stream. Since histamine can cause allergic reactions, the cell is of interest in all allergies.

The study of Drs. Juhlin and Shelley involved the acquired type of cold sensitivity caused by histamine.

Persons with this allergy react to a drop in skin temperature whether it is produced by a breeze, contact with a cool object, or entering an air-conditioned room. The cold produces a red, itching skin rash. In some cases there are more generalized reactions. For example, drinking ice water or eating cold foods can cause a frightening difficulty in swallowing and swimming in cold water can cause fatal shock.

Their study "demonstrated for the first time" that a change in the basophil in the blood and in the mast cell in the skin occurs in the presence of cold. The mast cell also carries histamine.

It is the release of histamine from the mast cell which produces the skin symptoms and it is the release of histamine from the basophil which produces shock in the sensitive person when he is severely chilled, they said.

In reaching this conclusion, the authors said, they used their recently developed technique for determining cold sensitivity by observing the action of the basophil in lowered temperatures. The release of histamine was "clearly evident" in as little as seven minutes after a sample of whole blood is placed in an ice bath, they said.

The authors suggested that the test could be used

the first and only **TIMED-DISINTEGRATION**
dosage form of an oral hypoglycemic

DBI-TD
CAPSULES 50 mg.

blood sugar lowering effects persist for
12 to 14 hours in **stable adult diabetes**
sulfonylurea failures • unstable diabetes



to detect cold sensitivity in persons who have shown no outward signs of the allergy.

It was pointed out editorially that through this technique the authors had observed basophil reactions of equal diagnostic value in the blood of persons sensitive to penicillin, prochlorperazine, and bee stings. Such a test "holds promise for the safe and precise laboratory detection" of persons who are potentially subject to allergic shock as a result of exposure to a variety of agents, the editorial said.

The basophil's role in circulatory ailments is based on the fact that the cell also carries the anti-coagulant heparin.

Drs. Juhlin and Shelley have found that the basophil dumps its heparin in the blood stream after a person eats a meal high in fats, the editorial said. This results in the rapid clearing of the fat from the circulatory system, it said.

Individual differences have been found in the degree of this dumping response, the editorial added, and these differences are being investigated to determine their significance in the development of hardening of the arteries.

A study of the behavior of the basophil in a variety of coagulation abnormalities, as well as its possible relation to the blood's ability to dissolve clots should also be rewarding, the *Journal* said.

The basophil was described in 1891 but its sig-

Adult Iron Tablets Pose Threat to Children

Patients prescribed iron tablets should be warned that they are potentially poisonous if taken by children, Dr. Evan Charney, Rochester, N. Y., stated recently.

From 10 to 30 tablets of the usual dosage (0.30 gram) of iron sulfate taken at one time have proved fatal in younger children, Dr. Charney wrote in the October 21 *Journal of the American Medical Association*.

He urged that a word of caution and education be prescribed with the tablets. In addition, he said, the possibility of labeling iron products as potential poisons and the use of safety containers deserve consideration.

Dr. Charney reported a case in which a 16-month-old girl took approximately 75 iron sulfate pills while her mother slept. The child died 14 hours after being admitted to a hospital.

He also cited a 1960 report of the National Clearinghouse for Poison Control Centers which noted that published accounts of accidental iron poisoning in young children are increasing and that half of the reported cases resulted in death.

nificance has emerged only in the past two years due to advances in the study of the chemistry and function of the cell, the editorial said.

DBI-TD

capsules 50 mg.

convenient — one dose a day, or two at most, for a great majority of patients

lowers blood sugar gradually, smoothly

well tolerated... minimal g.i. side effects

virtually no secondary failures in stable adult diabetes

no liver or other clinical toxicity after up to 1½ years of daily use of DBI-TD
nearly 5 years with the DBI tablet)

DBI-TD approaches the ideal in oral control of the great majority of patients with diabetes mellitus. This new Timed-Disintegration capsule form of widely used DBI is pharmaceutically "engineered" for gradual release and absorption throughout the gastrointestinal tract... so that each dose lowers blood sugar for about 12 to 14 hours.

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administration and dosage: One 50 mg. DBI-TD capsule with breakfast regulates many stable adult diabetics. If higher dosages are needed, after one week a second DBI-TD capsule is added to the evening meal, and further increments (at weekly intervals) to either the A.M. or P.M. dose. In patients requiring insulin, reduction of insulin dosage is made as DBI-TD dosage is increased, until effective regulation is attained. (The acidosis-prone, insulin-dependent, unstable diabetic must be closely observed for "starvation" ketosis.) Sulfonylurea secondary failures usually respond to relatively low dosages of DBI-TD alone, or combined with reduced dose of sulfonylurea.

side effects: DBI-TD is usually well tolerated. Gastrointestinal reactions occur infrequently and are associated with higher dosage levels. They may include an unpleasant, metallic taste in the mouth, continuing to anorexia, nausea, and, less frequently, vomiting and diarrhea. They abate promptly upon reduction of dosage or temporary withdrawal. In case of vomiting, DBI-TD should be withdrawn immediately.

precautions: Particularly during the initial period of dosage adjustment, every precaution should be observed to avoid acidosis and coma or hypoglycemic reactions. Hypoglycemic reaction has been observed on rare occasions in the patient treated with insulin or a sulfonylurea in combination with DBI-TD. "Starvation" ketosis must be distinguished from "insulin-lack" ketosis which is accompanied by hyperglycemia and acidosis. A reduction in the dose of DBI-TD of 50 mg. per day (with a slight increase in insulin as required), and/or a liberalization in carbohydrate intake rapidly restores metabolic balance and eliminates the "starvation" ketosis. Do not give insulin without first checking blood and urine sugars.

caution and contraindication: As with any oral hypoglycemic agent, reasonable caution should be observed in severe pre-existing liver disease. The use of DBI-TD alone is not recommended in the acute complications of diabetes: acidosis, coma, infections, gangrene or surgery.

DBI-TD (brand of Phenformin HCl — N¹,β-phenethylbiguanide HCl) available as 50 mg. timed-disintegration capsules, bottles of 100 and 1000. Also available as DBI Tablets 25 mg., bottles of 100 and 1000.

Complete detailed literature is available to physicians.

✓ from mental confusion to the right frame of mind



continuous, 24-hour cerebral oxygenation for the aging patient. By stimulating respiratory and circulatory function, GERONIAZOL TT* relieves mental confusion, depression, anxiety, and emotional instability—frequent problems in patients after forty—due to presenile changes in the vasculature of the brain. Notable benefit usually is seen within one to three weeks of therapy. It improves appetite, sleep pattern, and outlook—and GERONIAZOL TT* is non-hypertensive, non-excitatory.

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References: 1. Curran, T. R., and Phelps, D. K.: Am. Pract. & Dig. Treat. 11: 617, 1960.
2. Levy, S.: J.A.M.A. 153: 1260, 1953. 3. Connolly, R.: W. Va. Med. J. 56: 263, 1960.

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Each TEMPOTROL contains: Pentylentetrazol, 300 mg.; and Nicotinic Acid, 150 mg.

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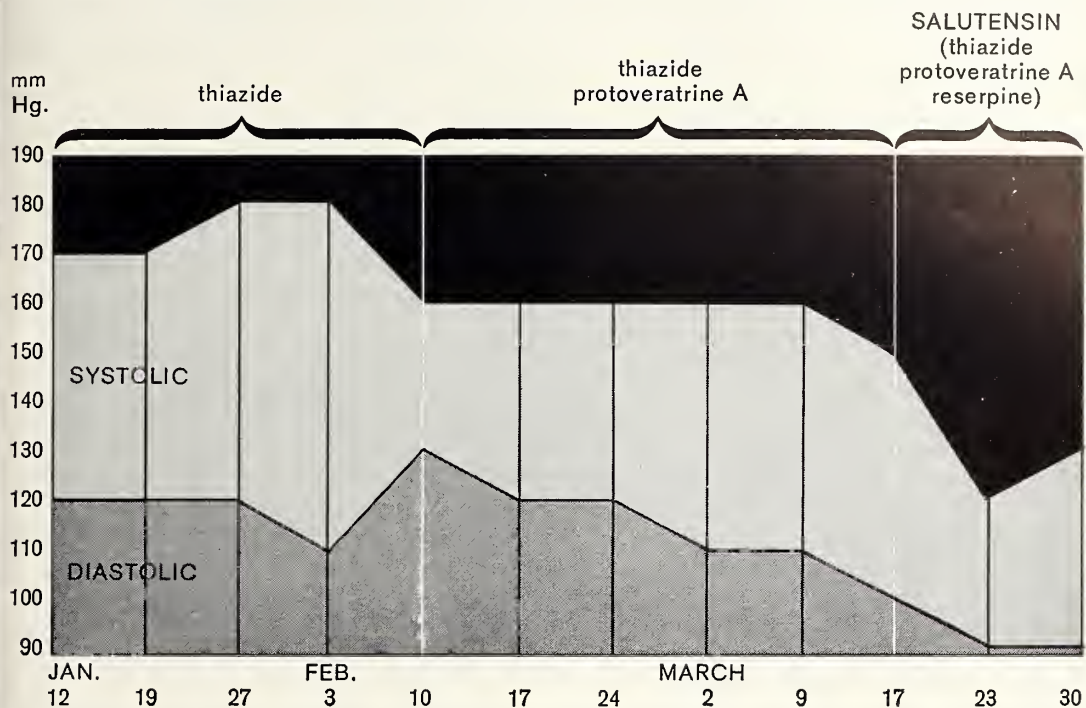
Contraindications: None known in recommended dosage.

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Supplied: Bottles of 42 tablets (3 weeks' treatment).

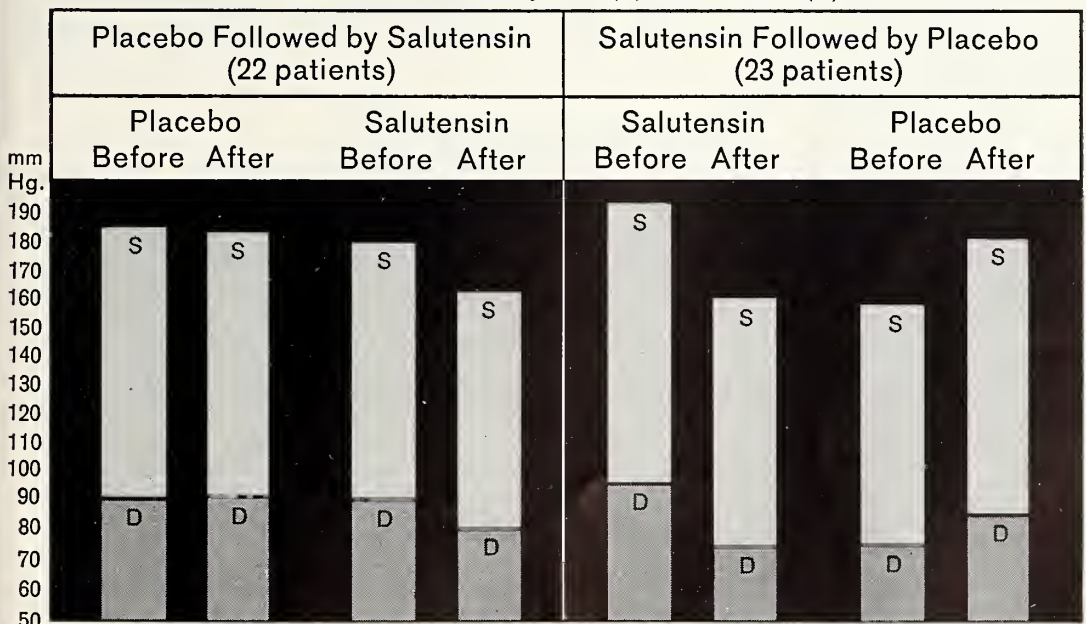
11 WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS BY SERIAL ADDITION OF THE INGREDIENTS IN SALUTENSIN IN A TEST CASE

(Adapted from Spiotta, E. J.: Report to Department of Clinical Investigation, Bristol Laboratories)



3½ WEEKS TO LOWER BLOOD PRESSURE TO DESIRED LEVELS USING SALUTENSIN FROM THE START OF THERAPY IN A "DOUBLE BLIND" CROSSOVER STUDY

Mean Blood Pressures—Systolic (S) and Diastolic (D)



In this "double blind" crossover study of 45 patients, the mean systolic and diastolic blood pressures were essentially unchanged or rose during placebo administration, and decreased markedly during the 25 days of Salutensin therapy. (Smith, C. W.: Report to Department of Clinical Investigation, Bristol Laboratories.)

BRISTOL LABORATORIES/Div. of Bristol-Myers Co., Syracuse, N.Y.



Generically Identical Drugs Can Cause Various Responses

Different generically identical drugs can produce various physiological responses in some cases, according to an article in the September 9 *Journal of the American Medical Association*.

"There is a mistaken belief among many that the active constituent of a drug product as a chemical entity is the sole basis for the pharmacological effectiveness of a pharmaceutical product," Gerhard Levy, Pharm. D., Buffalo, N. Y., and Eino Nelson, Ph.D., San Francisco, wrote in the *Journal*.

The authors cited numerous studies indicating that the choice of dosage form and of manufacturer's brand can be "just as important as the choice of the actual therapeutic agent."

The physiological response to a given drug product is frequently a function of both the pharmaceutical formulation of the particular dosage form as well as of the active ingredient, they said.

"In general, differences in therapeutic efficacy among different generically identical drug products . . . are most frequently due to differences in the rate at which the active ingredient or ingredients become available for absorption," they said.

"This may modify the onset, intensity, and duration of the desired physiological response. Furthermore, the efficiency, the biological availability (e.g., the completeness of absorption), as well as the in-

cidence and intensity of side effects and toxic reactions from the drug may be affected."

As an example, the authors cited a study showing that an increase in tablet size of bishydroxycoumarin (Dicumarol), an anticoagulant, reduced the drug's effectiveness although the quantity of the active ingredient was not changed. It was found that the drug dissolved at a slower rate from the larger tablet, the authors said, adding:

"It is quite likely that no two manufacturers' brands of bishydroxycoumarin tablets will act alike. . . ."

An increase in the pressure used in the compression of tablets, which is reflected by increased disintegration time, also may "markedly influence" the intensity of the therapeutic effects, the authors pointed out.

A large-scale test of two different manufacturers' brands of prednisone tablets yielded "a dramatic result," the authors continued.

"The healing process in patients on one brand of tablets could be halted when switched to the other brand and reinstituted when therapy with the original tablets recommenced," they said. "Total lack of therapeutic effect in one brand of tablets must reflect the influence of some formulation variable."

The incorporation of medicinals into special dosage forms in order to modify their release rate and

(Continued on Page 48)



When treatment for
IMPOTENCE
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ANDROID^{T.M.} tablets
ANDROGEN-THYROID-COMBINATION

in two convenient dosage forms

ANDROID

Each yellow tablet contains:

Methyl Testosterone 2.5 mg.
Thyroid Ext. (1/6 gr.) 10 mg.
Glutamic Acid 50 mg.
Thiamine HCl 10 mg.

ANDROID-H.P. (High Potency)

Each orange tablet contains:

Methyl Testosterone 5 mg.
Thyroid Ext. (1/2 gr.) 30 mg.
Glutamic Acid 50 mg.
Thiamine HCl 10 mg.

INDICATIONS: Impotence in male.

AVERAGE DOSE: One tablet three times daily.

AVAILABLE: Bottles of 100 and 500 at your pharmacy.

CAUTION: Not to be used when testosterone is contra-indicated.
Federal law prohibits dispensing without prescription.

1. *Methyl-Testosterone-Thyroid in the Treatment of Impotence*, A. S. Titeff (Prepub. Report).
2. *Thyroid-Androgen Relations*, L. Hellman, et al., *The Jrl. of Clin. Endocrinology and Metabolism*, August 1959.

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M E D I C I N E

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

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Volume 95

DECEMBER 1961

Number 6

Disaster Medical Care

The Part Played by the State Medical Association

**CHARLES C. HENDERSON, M.D., San Mateo, and
JUSTIN J. STEIN, M.D., Los Angeles**

SURVIVAL FROM DISASTER has continually assumed increasing importance to everyone. We are all aware in a rather vague way that there is talk of a *Survival Plan*, but too few physicians know of the part that they must play in it and that their medical societies must take an active and major role. Public apathy toward large-scale disaster is much like public apathy to some of the more severe infectious and malignant diseases. It can no longer be excused on the basis that the public is uninformed. The apathy of physicians to large-scale disaster is particularly inexcusable. We are prone to search for some vast organization that can meet the danger, and are unwilling to face the fact that we must provide the leadership in our own communities in order for any plan for survival to be effective.

When we have faced this fact and have begun to be aware of the problem—it is then only a simple matter of becoming informed as to what has already been done in our communities by local hospitals, medical associations, and the designated individuals charged with the responsibility for disaster preparedness, regardless of the type of disaster.

When the physician has become sufficiently motivated to participate, his county society Civil Disaster Committee takes on new meaning and new importance to him. With new interest and new

motivating forces, his hospital disaster committee begins to bring its disaster and evacuation plans up-to-date and to hold test exercises. He is suddenly aware that he may not even have concerned himself about his own patients' being immunized against tetanus, typhoid fever or poliomyelitis. He becomes interested in the handling of mass casualties and in the necessity for simple standardized techniques in the management of large numbers of medical casualties. Thus, when each physician becomes aware and begins to work and act, the community also becomes interested and enthusiastic; and soon, we have people who are informed about what may happen in the event of a disaster and what they can do about it.

The state medical associations are in an excellent position to implement a Survival Plan for each community by giving organizational assistance, instruction and encouragement through the county medical societies. In California, this includes:

1. Assistance in developing standards for adequate hospital disaster and evacuation plans.
2. Assistance in the organization and training of personnel to operate the available first-aid stations.
3. Instructions to the entire medical and paramedical professions in techniques in caring for mass casualties.
4. Encouragement to each community to carry out test exercises in order to perfect the plans for actual disaster.

Presented as part of a Symposium on Disaster Medical Care at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Member, California Medical Association Committee on Disaster Medical Care (Henderson); Chairman, California Medical Association Committee on Disaster Medical Care (Stein).

5. The development of mutual-aid plans with other states.

A great deal of work has already been done in preparing for disaster in California. Stein^{2,3,4} enumerated the accomplishments since 1950 of the California Medical Association Committee on Disaster Medical Care, the Governor's Emergency Medical Advisory Committee, and the California Disaster Office. The following 12 projects give support to the acknowledgment of California's leading role in the national defense picture:

1. The formulation of a Civil Defense Operations Plan by the state for over-all control, organization and continuity of government.

2. The development, purchase and stockpiling of 683 first-aid stations through the state.

3. The obtaining and storage of 142 Civil Defense emergency 200-bed hospitals in the state and locating them outside target areas wherever possible.

4. The development, publication and distribution of training manuals covering the operation of first-aid stations and Civil Defense hospitals.

5. The purchase and distribution of 50 water chlorinating units.

6. The purchase and storage of 378,000 blood procurement bottles, donor and recipient sets.

7. The purchase, stockpiling and plan for rotation of a large supply of antibiotics.

8. The initiation and encouragement of immunization programs, especially for poliomyelitis, tetanus and typhoid.

9. The insistence that each county medical society have an active Civil Disaster Committee and that

each hospital in the state have an up-to-date disaster plan.

10. The development and distribution of training units for test exercises with first-aid stations and Civil Defense hospitals.

11. The development of training courses and the encouragement to communities to hold test exercises, such as Operation Star in Alameda and Contra Costa counties which included 24 hospitals, 12 first-aid stations and 3000 participants.

12. The sponsorship of an annual symposium on disaster medical care at our California Medical Association meetings.

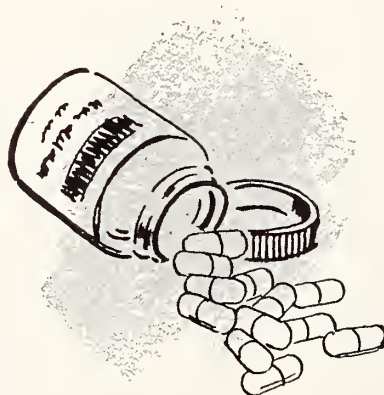
Each physician must become aware of the necessity and urgency for putting this survival plan into operation. It is up to him to assume leadership as Hoegh¹ has most capably put it:

"In creating the kind of strength we must have, it is entirely possible that we could prevent an attack from ever occurring. Strength is always a deterrent. Even the foolish would hesitate to attack a nation that is prepared to survive and recover."

36 South El Camino Real, San Mateo (Henderson).

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2. Stein, J. J.: Medical planning for disaster—Brief resume of accomplishments in California 1950-1959. Calif. Med., 93:69-71, Aug. 1960.
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Disaster Medical Care

The Program of the U. S. Public Health Service

R. LESLIE SMITH, M.D., San Francisco

WITH THE DETONATION of the first thermonuclear weapon, the need for a whole new structure of defense activities was imposed; the entire existing defense posture became obsolete in a matter of seconds. The country was forced to prepare to face a situation where it was possible for one weapon to wipe out an entire city. Later it was shown that the accompanying effects of such a weapon could extend the target devastation to surrounding areas far removed from the primary target.

On the heels of this questionable advancement in the field of physics and electronics, came additional danger potentials to threaten our defenses and necessitate counter action: New or more efficient kinds of chemical and biological weapons and vastly more expeditious means of delivering them.

As long as there exists in this world a political, economic and social system dedicated to destroying our way of life, we must accept the possibility of the use of these weapons as a part of the world in which we live, and the framework around which we must build both military and civilian defenses.

Responsibility for defense of the nation's civilian population is quite properly placed in the executive office of the President, where lies the authority for direction of the government and command of its military and civilian forces.

Civil Defense operations are conducted under the National Plan for Civil Defense and Defense Mobilization promulgated by the President of the United States in 1958. Under the authority granted the Office of Civil and Defense Mobilization (OCDM) certain preparedness activities are delegated by that organization to other federal agencies, and money to support these delegated activities may be transferred to the respective agencies.

To the Department of Health, Education, and Welfare (HEW), the director of OCDM has delegated responsibility for the preparation of national plans and the development of preparedness programs covering health services, civilian health man-

power, and other health resources. The delegation also charges the secretary of the Department of Health, Education, and Welfare with responsibility for coordinating the civilian health emergency programs of other federal departments and agencies. It is on the Public Health Service, and specifically, the Division of Health Mobilization, that the secretary relies for the implementation of these activities.

The Division of Health Mobilization was created May 1, 1959, for the express purpose of determining the medical and health needs of the nation in time of emergency and developing operational programs to assure that these needs will be met. Originally, the division was placed under the administrative structure of the Bureau of State Services of the Public Health Service. On July 1, 1960, it was transferred to the Office of the Surgeon General.

The division is organized as follows: *Office of the Chief*: Here program plans and policy guidance are developed for the conduct of operational programs under the division's direction, and control is maintained for the provision of a balanced program activity, coordinating the operational programs of the branches and field offices into a concerted effort to attain the long range objectives as well as immediate goals of the entire program effort. Under this office, four branches have been established:

1. *Program Services Branch*, which directs and supervises field activities of the division, including personnel assigned to Public Health Service regional offices, to states, to other agencies or organizations, or to special field studies.

2. *Health Resources Branch* evaluates the requirements for health supplies and equipment, including drugs, medical equipment, supplies, and chemicals used for sanitation, by inventorying existing supplies and assessing the ability to utilize such resources. By evaluating the requirements and the available supplies in accordance with expected damages, calculated loss of mobility, and capabilities of utilizing health supplies, the Health Resources Branch estimates the post-attack discrepancy of supplies and requirements, and recommends procedures, such as stockpiling and inventory control, to overcome such disparities.

Presented as part of a Symposium on Disaster Medical Care at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

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3. *Stockpile Management Branch*—On November 1, 1960, responsibility for planning and operating the Nation's emergency medical stockpile program was transferred to the Division of Health Mobilization from the Office of Civil and Defense Mobilization. Currently on hand is about \$200 million worth of medical supplies and equipment located in 33 warehouses throughout the country. The largest single item included in the stockpile is 1,931 "packaged" 200-bed hospitals for civil defense emergency use, valued at an average of \$20,000 each. About 1,500 of these are now stored at strategic locations, or prepositioned, across the country and others are in use for demonstration purposes and for training personnel. Stockpile responsibilities include procurement, maintenance, storage, inspection, quality control, distribution, utilization, and property accountability of essential survival supplies and equipment.

4. *Training Branch*—One of the major activities of the division is the training of medical and health-related professions in the area of health aspects of Civil Defense. With the recognition that in the event of a major attack, there would be an unprecedented number of casualties, far more than the professional personnel available can possibly treat, it is considered imperative that preparation be made to assure that in an emergency effective use can be made of the skills and resources of the medical and allied professions. Through regularly scheduled training courses, physicians and others can receive information and training in disaster activities. Specialized courses also are given in emergency hospital management and in areas of particular concern for nurses and environmental health specialists. In addition, several courses have already been conducted on the state level, and many more are planned. This is consistent with one of the goals of the training program—to assist states in providing training for personnel on a state or community basis.

Also being developed by the Training Branch is a Medical Self-Help Training Program whereby individuals will be helped to develop a capability to meet their own health needs in the event of a national disaster, either through self-help or neighbor-help principles. This program is being tested, and reaction is most favorable. A medical self-help training kit based on the Air Force Buddy Care Kit, which has proven most successful, has been produced. This civilian training kit contains complete teaching and lesson material, including visual aids, with which laymen can teach classes of laymen lifesaving skills and techniques which will assist them to save or maintain life in the absence of a physician or until medical help can be obtained.

In conjunction with this program, a research program was instituted with OCDM funds in 1959 to explore various areas of basic survival from the standpoint of an average American family and to detail measures of accomplishment under austere conditions. From these studies, which were conducted with the endorsement and continuous review of the Council on National Security and its Committee on Disaster Medical Care of the American Medical Association, a manual has been developed which is now in final production stages. Initial distribution will be made to physicians, both private and governmental, and then it will be made available to the public.

Included in the operational format of the Division of Health Mobilization is a section devoted to preparing plans for a Federal Emergency Health Service organization which will, in an emergency, result from consolidation of the existing federal health services organization such as the Public Health Service, Veterans Administration, Food and Drug Administration, and Office of Vocational Rehabilitation. This plan will allow agencies with related functions to plan to work together in an emergency without concern for normal lines between the respective peacetime activities. We hope this national cooperative planning will set a pattern for cooperative planning at the state and local level. Such an approach, providing a basis for emergency work by existing agencies, can result in rapid and coordinated post-attack action by government employees who are now on the job. This is "built-in" civil defense in its truest form.

Physicians who are "research minded" doubtless will wonder at the seeming omission of a Research Branch under the division's aegis. An explanation of the financial structure under which the division operates may help to explain: Each year, the Public Health Service develops a proposal for an emergency program for the following budget year and submits this proposal through the Department of Health, Education, and Welfare to the Director of OCDM. Our proposed program, along with proposed programs of other delegate agencies is then submitted to Congress by the Director of OCDM. When the money is appropriated, the health share is then transferred to the Public Health Service under the terms of a contract with OCDM. In this contract, OCDM specifies what it expects to accomplish with the money. The Public Health Services current appropriation is not commensurate with the Civil Defense health services needs. Several research projects have been initiated for study of such pertinent questions as standardized treatment procedures for austere medical care and utilization of health manpower, and it is hoped that in the future we will be

able to conduct a research program of a scope much closer to what we consider definitely necessary.

This is a brief description of our Civil Defense health services organizational structure at the federal level. Having federal organization does not necessarily assure that the job will be done, however.

Following are some of the things that we, as individuals and as community representatives, must consider if we are to "get something done" in health mobilization.

The National Plan for Civil Defense and Defense Mobilization, promulgated by the President in October, 1958, defines the mission of nonmilitary (or civilian) defense as an integral part of the total defense of the nation. This mission includes:

1. Protection of life and property by preparing for and by carrying out nonmilitary functions to prevent, minimize, repair, and recover from injury and damages; and
2. Mobilization and management of resources and production.

Much has been done by states and their local jurisdictions toward preparing for the protection of life and property, the first part of this two-fold nonmilitary defense mission. The states, with encouragement, guidance and assistance from the Office of Civil and Defense Mobilization, have prepared and published comprehensive operational survival plans.

These operational plans specify the actions required by governments and the people under emergency circumstances in the provision of essential community services and disaster relief to the population. Included are measures for providing emergency health services, including medical care, welfare services, fire and rescue services, law enforcement, traffic control, radiological defense, public information, emergency communications, transportation and other vital services required to protect life and property in a disaster.

State and local plans are less complete in the second part of the two-fold nonmilitary mission, although consideration in some states is being given to specifying control of goods and services and effectively directing their distribution and use during an emergency. Also being developed are rationing systems for food, fuel and clothing and other necessities for continued operation of essential industry and business, use of money and credit, and restoration of essential services.

All Civil Defense plans and activities bear directly upon our health program. The plans should group these activities in such a way that they will function in unison, under control, to produce a desired result—survival of the community. It has been proved

under all conditions of war and peace that people succeed best who form definite ideas of what they are going to do before they start to do it. Without a plan, we drift into situations and find ourselves at the mercy of circumstances. To "get something done" in Civil Defense we must have an emergency operations survival plan which provides for an organization and the functions this organization is expected to perform.

It is basic to sound planning that we be guided by the principles of:

- Simplicity
- Flexibility
- Utilization of units in-being
- Practice.

The problems of getting widespread participation and sustained enthusiasm in Civil Defense are difficult. However, if we have clear-cut plans that can be readily modified to meet the situation; if we plan to utilize units in-being, prescribe procedures which are in themselves simple, flexible and widely known, all we need is practice and rehearsal to make the transition from a paper plan to operational capability.

Let us now consider the planning that is necessary to provide community health services in an emergency.

First, the primary mission of emergency health services is to:

- Minimize the effects of natural or man-made disaster, through such measures as mass casualty care, emergency preventive health services, and rehabilitation;
- Maintain good health of noncasualty population; and
- Restore essential community health services in order that the country can recover as quickly and effectively as possible.

Post-attack health problems that complicate the successful completion of the civil defense mission are increases in morbidity and mortality resulting from:

- Destruction of water systems
- Destruction of sewerage systems
- Loss of essential health services
- Lack of shelter, clothing, fuel
- Increased insects and rodents
- Overcrowding and inadequate food and
- Emotional and psychological strains.

Overriding these secondary problems are the two major problems that will make the provision of health services extremely difficult in case of enemy attack:

The wide *disparity* that will exist between the resources that remain after attack and the require-

ments for these resources for casualty and non-casualty care; and

The *radiation fallout* that may interdict prompt response and rescue as well as create additional casualties. Food and water may be contaminated and essential services such as heat, water, food, and medical care that were not destroyed by the initial detonation may be denied for extended periods.

The use of biological and chemical warfare agents will pose additional problems. Both may be used before and after attack or concomitant with the use of thermonuclear weapons, both can be used in either a covert or an overt manner, and both are effective and are difficult to recognize and counteract. The most significant similarity between chemical and biological warfare is in the method of disseminating the morbid agents. The most likely use of either would be with various devices capable of producing large numbers of very small airborne particles or aerosols.

These are versatile weapons that pose significant problems in health mobilization planning.

With this brief look at the mission of emergency health services and some of the major problems we will face in an all-out attack upon this country, let us review some of the elements of emergency health service planning.

In carrying out the mission of the emergency health service, the Health Plan must include measures to:

1. Minimize the number of casualties that will result from the attack, including shelter and evacuation, education and training in survival techniques, and health preparedness measures.

2. Develop capability to provide mass casualty care, including education of the populace in first-aid and self-care, stockpiling of resources, and expanded function training.

3. Develop capability of the community to organize and institute efficient emergency health services including reestablishment of preventive health controls, community health services.

4. Develop mutual assistance plans with adjacent areas despite local or state boundaries in order that the most efficient management of available health resources can be realized.

In development of the community Health Plan, the following rules are important: Fix responsibilities for specific actions on specified individuals; always consider possible alternative courses of action and designate alternates to key positions; and, most important, be guided by basic assumptions and estimates so that your plan will be responsive to the situation.

Certain assumptions are basic and are already contained in the National Plan, the State Plan, and all ancillary plans. From time to time, new assumptions are necessary, which requires periodic revision and updating of plans. Here are the assumptions that are believed to be fundamental:

- There will be *disparity* between available resources and the requirements for those resources. This is the most controlling assumption with which we must deal. This deficiency of resources requires such measures as self-help and expanded responsibilities for health personnel, both of which necessitate previous training; improvisation of facilities, supplies and equipment; stockpiling; triage; and standardized treatment procedures.
- *Communication will be limited* or not available. The loss of this essential service requires that all personnel have a thorough knowledge of the total plan and their specific job in order that operations will remain coordinated.
- There will be widespread destruction or *denial of hospital and medical facilities*. Emergency hospital units must be stockpiled in nontarget areas; treatment facilities must be improvised; and, reliance must be placed on self-care or neighbor-care.
- It must be assumed that due to fallout most communities will experience *a delay of days or more before organized medical care can be reinstituted*. This, again, emphasizes the importance of self-care and neighbor-care; personal stockpiles of food, water, and medical survival items; and training of the general population in personal survival.
- It must be assumed that *biological and chemical warfare* agents will be used. Every effort must be made to supply protective measures against these agents as they become available. Training in self-protection, decontamination, and treatment is essential.

Within the frame of reference of these assumptions, the Health Operations Plan must provide for and describe in some detail the situation for which it is developed and the support and resources that are available to implement the plan.

It should not only designate who is responsible for activating the plan, but how key personnel are to be notified, where control points are located, and the specific actions that are to be taken initially, automatically.

Special professional instructions covering organization of sub-units, treatment procedures, use of medical and health supplies and equipment, and actions to be taken (when and where) should be included in these instructions.

The community's health plan must provide guidelines for rescue and evacuation of injured, radiation monitoring, special measures for chemical warfare and biological warfare defense, preventive medicine, emergency sanitation, mortuary services, registration and the ways and means to be used to test the feasibility of these measures.

Finally, the methods to be used in providing the essential training to all personnel necessary to ensure successful operations in the event of disaster should be included in the plan.

In the actual situation, we must be prepared to make changes if we find that the "ideal" operation we have planned, rehearsed and practiced is impossible, either in part or as a whole. Multiple attacks upon the country may necessitate revision to a primitive situation after we have reestablished organized health services. Radiation fallout may not follow our assumptions either in direction or extent. In spite of the best planning and training, malfunctioning of key personnel may require extensive changes in our plan of operation.

In spite of all these unplanned-for possibilities, the community that has a plan, and has taken necessary steps to develop a capability of implementing the plan will find itself well prepared to adjust to varying conditions. Planning prepares us to make a wise alliance with circumstances.

The successful operation of an emergency health service program of "getting something done" in health mobilization depends upon:

- A sound plan of operation
- Aggressive leadership
- Efficient use of available supplies, equipment, and facilities
- Intensive operational training, practice and rehearsal
- A force-in-being, mission-oriented

A response to certain basic requirements such as provision of shelter, stockpiling essential supplies and knowledge of survival principles.

The road to operational capability and "getting something done" is long, rough and fraught with many discouraging setbacks. We need constant assurance, motivation and stimulation. The newcomer to the field usually starts out with enthusiasm, only to become discouraged at how difficult it is to get support, to demonstrate measurable progress and to find something tangible enough "to get his hands on."

In Civil Defense, we must do more than bring forth ideas. We must plan how to make the ideas effective and, more importantly, how to push the plans through to successful completion. This requires steady sustained effort on the part of the entire community. There is a tendency to look for an easy way to by-pass all the difficult, detailed work that is necessary to develop a real Civil Defense capability.

In health mobilization we must base our operational plans upon the resources that are actually available rather than wistfully planning what we would like to have to do the job in an ideal manner. The greatest existing asset of the medical profession is its perfected ability to function in an emergency. By basing emergency plans upon what is actually on hand, we have the capability to go into operation immediately, if necessary. In the meantime, we can persist in our efforts to increase our capability by adding to our resources.

Let us continue to devote our best efforts to planning the wisest attack on the problems of Civil Defense health services. But, when the chips are down as an old maxim instructs, "do the wisest thing, if you know what it is, but anyway do something—the wisest thing you know."

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Disaster Medical Care

The Role of the Council on National Security of the American Medical Association

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WHAT IS THE POSITION of the American Medical Association in disaster medical matters? Perhaps an insight can be gained from American Medical Association *Guide to Services*, Third Edition, 1955, which states the purpose of the A.M.A. as follows: "The American Medical Association has as its objective the promotion of the science and art of medicine and the betterment of public health. It is a physician's organization, *existing to serve the physician and the general public.*"

As one of the means of service to physicians and the general public, the House of Delegates authorized the Board of Trustees in 1945 to create the Committee on Military Medical Service. In 1947, because of the increasing scope of its activities, the board created the Council on National Emergency Medical Service from the original Committee; and, again in keeping with change, in 1954 the Council was redesignated the Council on National Defense. Consonant with the ever enlarging scope of the Council, the Trustees in February 1960 approved the change in name to the present Council on National Security. At that time the Trustees adopted the following outline of the functions of the Council:

"(a) The scope and purpose of the Council on National Security is to provide advice and assistance to the Board of Trustees and to the medical profession on all matters involving the medical and health aspects of the national security, particularly as such national security pertains to the utilization, mobilization and coordination of medical and health resources.

"(b) In the discharge of these responsibilities, the Council shall maintain effective liaison with other councils, committees and others within the Association and shall refer appropriate scientific and professional problems to the proper groups for study, advice and recommendation.

"(c) Liaison shall also be maintained with government and nongovernment departments, agencies

and associations on matters involving medical and health problems and activities in national security." This last provision, (c), permits a wide latitude of activities, within and without the profession with governmental agencies and other organizations that are concerned with the many aspects of national security as related to medical and health considerations.

To conduct its affairs and discharge its responsibilities the Council has two committees, the Committee on Military Medical Affairs and the Committee on Disaster Medical Care. Although most of the more directly related activities concerned with medical problems relative to major disasters are within the province of the Committee on Disaster Medical Care, some of those of the Military Medical Affairs Committee are directly or indirectly related. As an example, the question of the status of reserve military medical units and personnel in relation to planning phases and actual operations during disaster is properly one for the Military Medical Affairs Committee, but it is also of great importance to the Committee on Disaster Medical Care.

The two committees of the Council each meet periodically to conduct their business and for inspection or briefing purposes. Both committees at all times are completely conversant with national, regional, state and local aspects of the many facets of the matters with which they are concerned. Committee meetings are held either in Chicago or at other points in the country, depending upon the nature and the purpose of the meeting. The Council usually meets in Chicago, although its Executive Committee also meets at the time and place of Clinical Session and of the Annual Meeting of the A.M.A. The committees appoint subcommittees for specific purposes, and the subcommittees report their findings and recommendations to the entire committee for final action and disposition. Each committee submits its reports and recommendations to the Council at its regular meetings.

Several noteworthy achievements of the Council will serve to illustrate both the importance of the Council in matters pertaining to national medical disaster care and its ability to function efficiently.

Presented as part of a Symposium on Disaster Medical Care at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Member, American Medical Association Council on National Security; Member, California Medical Association Committee on Disaster Medical Care; Chief, Medical and Health Section, Region 1, California Disaster Office.

The first concerns the threatened outbreak of an epidemic of Asian influenza in this country. The Council recognized the threat of a national medical disaster in this situation and gave incentive to the biological producing industry to mobilize its forces to produce and distribute huge quantities of influenza A vaccine, thus aborting a national epidemic that could have been disastrous to the individual citizens and to the economy of the country. This also is a very practical demonstration of one of the basic potential defenses against biological warfare that exists in this country.

Another example of the Council in action was in the discharge of the contract, entered into between the A.M.A. and the then Federal Civil Defense Administration (FCDA) which provided for the Association to conduct a "comprehensive study encompassing, on a national scale, medical disaster planning and preparedness." A special Commission on National Emergency Medical Care was created for this purpose. The Council reviewed and approved the report of the commission in December 1958 and in February of 1959 the Board of Trustees directed that the report be submitted to OCDM, which by then had succeeded FCDA. The *Report on National Emergency Medical Care*, a volume of some 150 pages, has been of invaluable assistance in medical disaster care planning at the national level. A summary of the report, in the form of a 38-page pamphlet, was prepared by the A.M.A. upon the recommendation of the Council. It was so well received that a second printing was authorized. More than 10,000 copies of the summary have been distributed.

For the last three years the programs have been presented by the medical departments of the Army, Navy and Air Force. At the last conference, held in New York City, the major considerations were (1) the impact of nuclear war upon the community, (2) various logistical aspects of disaster medical care, (3) radiation fallout and survival techniques, (4) mass behavior problems in disaster, and (5) defense planning fundamentals. In addition to this program, the OCDM and the Council jointly sponsored a shelter exhibit, the "Family Room of Tomorrow."

Another important annual conference sponsored by the Council is the County Medical Societies Disaster Medical Care Conference. The Conference is held in Chicago early in November. The importance of the Conference is attested by the fact that at the last meeting—the twelfth—there were over 370 persons registered, from Canada and the United States and its possessions as well as from most of the states. At this meeting emphasis was placed upon some of the problems encountered in disaster medical care at the local community and the county

levels. One of the features of the annual conference is a series of workshops that give all registrants an opportunity to actively participate in the presentation and discussion of problems at the county medical society level.

To discharge its responsibilities in national medical and health preparedness, the U.S. Public Health Service created the Division of Health Mobilization. The division is headed by a very conscientious and capable person who has had extensive experience in the field of traumatic medicine and surgery. He is assisted by an efficient staff. Upon request, the council meets with the chief of the division and his staff, to be briefed on developments and progress of the division and also to serve in advisory capacity. Liaison and rapport between the division and the Council is most heartening. Equally good relations exist between the Council and the Medical and Health Division of OCDM.

It is generally agreed that following a mass attack upon this country individuals and families in the target areas will practically be on their own for periods as long as two weeks. To assist the people with medical care problems during this period of enforced isolation, the Public Health Service is preparing a brochure of medical self-help that ultimately should be distributed to every family in this country. Several drafts of the proposed publication have been submitted to the Council for criticisms and suggestions.

Developments in aeronautics and space exploration have been followed closely by the A.M.A. At the Dallas meeting in 1959, the House of Delegates approved the action of the Board of Trustees that recognized a dual responsibility of the medical profession in this new area. Responsibility was delegated by the board to the Committee on Aviation Medicine of the Council on Occupational Health and to the Council on National Security which "is concerned with space activities in the government agencies and their organizations and policies as they affect the national security." The interest of the Council is primarily in "the organization and policies as they pertain to the marshalling of the nation's medical and other health personnel and material in preparation to withstand, or cope with, the ravages of an airborne or space attack upon the nation."

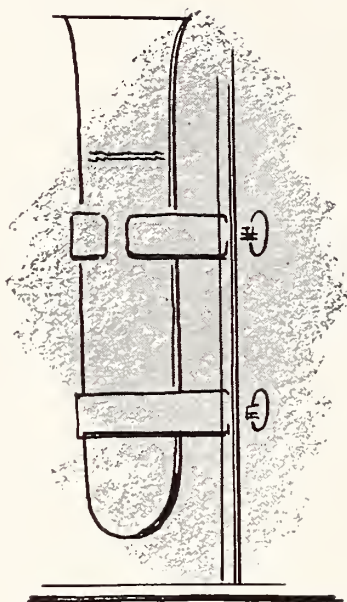
Many of the activities of the Council as related to disaster medical functions are carried out by its Committee on Disaster Medical Care. One of the important functions of this committee is to meet with state medical society representatives and federal Civil Defense officials, on a regional basis, to receive reports and to discuss problems in the state concerning the medical care organization and capabilities, as well as to learn of progress and problems from the federal regional standpoint. One of the

major interests of the A.M.A. is to determine how it can be of the greatest assistance to the state associations in bringing medical disaster preparedness to the highest possible level of development.

In closing, one of the grass-root level functions of the committee should be mentioned. One of the many items in evaluating a hospital for approval by the Joint Commission on Accreditation is the disaster

plan of the hospital. A subcommittee is working on the development of criteria for evaluating these hospital disaster plans in order to assure that they are workable, are up to date, and are tested. When finally approved, these criteria will be used by the commission inspector as the basis for this portion of his report of each hospital.

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Disaster Medical Care

The Medical Program of the California Disaster Office

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A PROGRAM to meet medical and health needs in disaster was begun in California more than ten years ago. In 1950 the California Legislature passed the California Disaster Act establishing an Office of Civil Defense, and appropriated \$12,000,000 of which \$3,167,000 was for medical and first-aid supplies and equipment.

At the same time the Governor appointed an Emergency Medical Advisory Committee which included representatives of the California Medical Association Emergency Medical Committee as well as consulting members to represent the paramedical professional groups. This committee remains today as a potent and extremely useful agency with the continuous responsibility for planning and implementing the medical and health program for disaster.⁵

From the very beginning, the state has had a Civil Defense Plan including a Medical Annex. In 1959 the plan was rewritten and it has been revised again this year to meet the current demands of war. By loan from the federal government, the original 20 Civil Defense hospitals (purchased by the state) have been increased over the years to 174. Five of them are training hospitals.

Our training program has been expanding. Five years ago, through the Red Cross, we were training 55,000 people a year in first aid. Today we are training more than 110,000 a year. Last year four local communities conducted medical exercises using the training hospitals. This year 17 such exercises were held. An increasing number of classes in Medical Care in Disaster are being given throughout the state by various nurses' organizations.

We have just completed a revision of all printed material relating to policies and procedures of the Medical and Health Division and issued them under one cover as Bulletin No. 5. With the cooperation of the California State Pharmaceutical Association, we have begun a state-wide inventory of essential drugs and medical supplies. We are now rotating some \$70,000 worth of antibiotics through purchase by state-owned hospitals from our office in Sacramento.

A program for the inventory, inspection and reconditioning of our stored medical equipment is under way. An intensive effort is being made to bring the state organizations of all paramedical groups actively into the Civil Defense program.

All of these activities would seem to indicate that our medical and health program is proceeding most satisfactorily.

Unfortunately, nothing could be further from the truth!

To be successful a program must be carried out to its ultimate goal and the adequacy of any disaster plan can be measured only by the extent to which it meets local needs.

By these standards it is painfully evident that the great majority of our local jurisdictions are not prepared to meet a major medical emergency, whether it be disaster or modern war. Such preparedness can be achieved only through the active cooperation of every California physician. The physician is the mainspring of the medical community and, until he frees himself from the lethargy which he now shares with the uninformed general public, many thousands of lives will be needlessly sacrificed and our national security endangered.

There are today only 12 California counties which may be said to be actively preparing to meet medical and health needs in disaster. Many of the physicians who took part in medical exercises during the past year did splendid work, but they actually represented fewer than 15 per cent of our medical societies and totaled less than 3 per cent of our registration.

One of our country's leading physicians, a man with long experience in Civil Defense work, has recently concluded that we are so psychologically and historically oriented that we cannot perform defensive functions for the good of the community without pay.² His solution would be to place every state, county and city health department, every hospital and all hospital personnel under the control and direction of the United States Public Health Service, even though this might require an amendment of the Constitution.

A recent study of Health Manpower Mobilization, conducted by a firm of consultants to the U.S. Pub-

⁵ Presented as part of a Symposium on Disaster Medical Care at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Chief, Medical and Health Division, California Disaster Office.

lic Health Service, goes even further.⁴ It recommends that a Public Health Service Ready Reserve be formed to parallel the Military Reserve Organization with commissioned, specialist corps and non-commissioned ranks. This organization would include not only all of those engaged in public health and emergency medical services, but also physicians, hospital administrators, sanitary engineers, technologists, epidemiologists, nurses and others *without numerical limitation*.

Under this plan, the ready reservist would be required to devote two hours a week for 48 weeks of each year on active duty in some assigned phase of emergency health service planning or training. In addition, he would spend at least four full days per year in these duties, for a total equivalent of 16 eight-hour days.

It is important that we understand that both of these proposals were born of frustration. The proponents admit that their plans would result in a loss of state's rights and a further restriction of our individual liberties. However, as experienced Civil Defense workers who realize that our existence as a free nation is at stake, they have become so discouraged in their efforts to arouse an apathetic public that they are ready to sacrifice some of our freedoms in order to save the rest.

I cannot agree that such desperate measures are either necessary or wise. The proposal to concentrate still more power in the federal government violates the sound military doctrine that the best defense against massive attack is the dispersion and decentralization of governmental authority. Under the conditions of atomic war, our traditional system of autonomous state and local governments offers the best possible assurance for recovery and the maintenance of law and order.

I also believe that physicians everywhere will be found willing to prepare in advance for disaster or war just as soon as they fully understand that afterward will be too late.

In any case it seems clear that our medical and health program must be oriented to emphasize more strongly, and as a first order of business, the indoctrination and training of every physician in his Civil Defense responsibilities. How to accomplish this task is a question which deserves our most serious attention. It is one which the California Medical Association should help to answer.

As a first step in this direction, I suggest that a full day be devoted to future symposia, as an appropriate recognition of the growing importance of our Civil Defense responsibilities. We can no longer be content to pay mere lip-service to the problem of our national survival. The California Disaster Office is urging every political jurisdiction in the state to prepare itself to cope with a major local disaster.

This is a wise program which will save many lives each year. At the same time we know it is the only way the entire state can become prepared to withstand an atomic attack.

That we can survive such an attack has been repeatedly shown by many exhaustive studies. One of the most authoritative¹ concludes that a reasonable degree of preparedness can reduce our casualties by 85 per cent. No one denies that the consequences of modern war will be grim. The important thing to remember is that, within wide limits, we ourselves have the power to decide what those consequences will be. To assist in this effort in the coming year, our medical and health program will strive for improvement in the following fields:

Indoctrination

The physician can best be influenced through his local medical society. As an individual he may cling to his own fallacies but he is capable of critical appraisal of the points of view of others. It is therefore as a group that physicians can be persuaded to abandon the rationalizations by which they escape reality and to face the facts of our troubled times. Medical societies must become willing to devote at least two of their meetings each year to a full discussion of their roles in Civil Defense. With such meetings scheduled, the entire membership should have the moral courage to attend them.

In every medical society there are competent and public-spirited members capable of assuming leadership. They should be sought out and put to work on the Civil Defense Committee. Once this is done they must be given the active support of their fellows, not in a sporadic fashion, but in a continuous self-sustaining effort to achieve readiness to meet disaster. Like the need for fire insurance, the need for participation in Civil Defense must be accepted, for the foreseeable future, as a *way of life*, and not solely as a way to stay alive.

After the medical societies, in greatest need of indoctrination in Civil Defense are the public health officers. Although we have health officers in California who have labored many years in Civil Defense and a few who are doing outstanding work in organizing entire medical communities, the truth is that they are exceptional. Under the law, health officers are also Civil Defense officials. In an extreme emergency they are responsible not only for the public health of their jurisdiction but also for the care of the sick and wounded. They are, however, preoccupied by their regular duties and handicapped by the fact that, with very few exceptions, they have been given no funds with which to carry out Civil Defense planning.

The indoctrination of this important group could be easily accomplished if their own association would devote one full day of its annual meeting to a program covering every aspect of the Civil Defense problems. Our job in the C.M.A. is to assist each health officer by providing an effective plan and an efficient volunteer organization for medical care in his jurisdiction.

No less important is the indoctrination and motivation of nurses, technicians, hospital administrators and all of the allied medical professions. The truth is, however, that they have demonstrated throughout the state a better recognition of their responsibilities than have the physicians who are their natural leaders. When the proper leadership is forthcoming, their progress will be rapid.

Planning

Since total war demands a total defense, total planning is necessary. Federal planning is futile unless implemented by the states, and state planning is ineffective until carried out at county and city level. Similarly the plans of local government to provide medical care are useless without the cooperation of hospitals, physicians and the entire medical community. To be of value, all plans must be kept up to date, repeatedly tested and clearly understood by those who must carry them out.

For this reason the California Disaster Office continuously reviews the plans made by local jurisdictions for completeness, flexibility and coordination with neighboring jurisdictions. Although nearly three hundred local Civil Defense plans have been written, most of them are now obsolete and only a few include a complete medical and health plan. The fact that some contain only provisions for public health emergency services while others provide only for the care of casualties reflects a lack of cooperation between the health officer and the local medical society.

Our failures in the past have been due to inexperience in planning and lack of familiarity with disaster conditions. We may now expect a very great improvement, thanks to the Office of Civil Defense D.O.D., the American Medical Association, the American Hospital Association, the Division of Health Mobilization of the U.S.P.H.S. and their many Civil Defense committees and their task forces. These agencies are producing an increasing number of practical and realistic plans combining the experience gained in many real disasters. As they become available, our office will distribute these plans throughout the state as prototypes for medical planning and as guides for the care and handling of mass casualties. The greatest need for realistic planning is in the hospital. This important subject will be discussed by another speaker.³

Organization

In contrast to plans, organizations are not merely names on a piece of paper. They are groups of people selected to carry out certain functions. Members of each medical care organization must, therefore, meet often enough to become well acquainted with each other and with the task they are expected to perform.

The basic organization for medical care has been fairly well established in our local communities. Within this structure, however, are many other organizations, aside from hospitals, each of which is vital to the success of the whole. For this reason our office is emphasizing the importance of these component groups and we have issued a number of bulletins and information pamphlets regarding them. Some of these organizations are:

1. *First-Aid Teams*, trained, equipped and ready to go into action immediately.
2. *Litter Bearer Teams*, who, contrary to popular belief, need training and are not always readily available.
3. *Blood Procurement Teams*, without which blood supply fails in the first few hours.
4. *Civil Defense Emergency Hospital Construction Teams* (provided by each American Legion post), trained to unpack and set up the hospital and equipped to provide plumbing, electrical and carpenter services.
5. *First-Aid Station Cadres*, previously assigned, trained and ready to set up and operate aid stations without loss of time and waste of supplies.
6. *Civil Defense Emergency Hospital Cadres*, previously assigned, trained and ready to set up each hospital as planned and to operate it until the arrival of supplementary staff.
7. *Decontamination Teams*, previously assigned, trained and equipped to decontaminate medical facilities and thus advance the time of their readiness to admit patients.

These are the nails without which the horse and battle may be lost.

Our final organizational requirements are well-trained medical sections to serve at state and regional Emergency Operating Centers. These sections are being formed as rapidly as possible and will consist largely of representatives of the State Departments of Public Health and Agriculture and of the state allied medical and Blood Bank associations.

Medical Supplies

While our supply needs can be described as "more of everything," some are more urgent than others. We have requested that our 680 first-aid stations be increased to 1,000 and our 174 Civil Defense Emergency hospitals to 274.

As soon as funds become available, our program calls for:

1. Increase of rotating stocks of antibiotics to \$150,000.
2. Conversion of 39,000 units of dried plasma to serum albumen with shelf-life of ten years.
3. Purchase of stocks of plasma volume expanders.
4. Complete replacement of our stocks of blood-grouping and typing sera (cost, \$25,000).
5. Purchase of 30 sets of equipment for fluorescent-tagged antibody rapid identification with matching funds.
6. Replacement of our entire stock of blood bottles.
7. Procurement of miscellaneous items to include tetanus antitoxin and toxoid, atropine syrettes, tracheal tubes, x-ray film, etc., in which we are in dangerously short supply.

We are well aware, after years on an austere budget, that a sudden international crisis would produce unlimited funds, almost overnight. The history of disaster abundantly proves, however, that such assistance comes too late. Money cannot buy time.

Training

In disaster we will be using substitutes for nearly everything but knowledge. For this there is no substitute and it must be provided by training. There is a common notion among physicians that their training has been completed and that the care of mass casualties can be taken in stride, except perhaps, for longer working hours. Although this idea is comforting to those who feel that they have no time for Civil Defense, it is nevertheless completely false.

The truth is that, in an extreme emergency, every physician in California will be working, either in a specialty entirely unfamiliar to him, or at a technical level to which he is unaccustomed. For the first week after atomic attack every physician, regardless of his specialty qualifications, will be acting as a surgeon or neurosurgeon. All those in the surgical field will be upgraded as recommended by the A.M.A. Report on National Emergency Care.⁶ Interns will become assistant surgeons; surgical residents will become surgeons; assistant chiefs of surgery will be assigned a number of operating rooms with the duty of circulating between them and offering technical advice and occasionally assistance. The chief surgeon will be removed from the operating

suite entirely and sent to the receiving area where, as triage officer, he can use to best advantage his long experience and surgical judgment.

In such circumstances it is clear that training is our greatest need. Every physician should refresh his knowledge of the treatment of traumatic injury, which we tend to forget between wars. He must learn that the threat of biological and chemical weapons is very real. He will need to be familiar with the nature, diagnosis and treatment of irradiation injury and with the open treatment of burns. He should be prepared to do triage employing wartime priorities. Most of all, perhaps, we must all learn to do without the supplies, the trained assistants, modern equipment and ideal environment to which we are accustomed. Everything will be in short supply, including the precious element of time.

Our program calls for training courses to be established in every medical community. Since the state cannot provide the many instructors needed, they must be obtained locally. Every medical society has competent and well-trained members who can serve. If an expert from out-of-town is needed to impress local audiences, arrangements can be made to exchange speakers with neighboring jurisdictions.

Finally, the test of individual training is the ability to function smoothly as part of a team. This can be determined only by practical medical exercises which include all those concerned with medical care. It is of the greatest importance that such exercises be held annually.

The events of each passing day bring us closer to the time when we will face our greatest challenge. How we meet this challenge will determine whether or not this country will survive and live to fight back.

California Disaster Office, P.O. Box 110, Sacramento 1.

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Disaster Medical Care

The Use of Armed Forces Reserve Personnel in a Civilian Program

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DEFENSE IN ALL RESPECTS can be best described as a triangle. On one side are the military forces, both active and reserve, of the Army, the Air Force and the Navy. On the second side is the industrial capacity of our nation which must be maintained and greatly expanded in the event of mobilization for general war or even for limited conflict. The third side consists of the civilian communities of our country. Any planning for support during a disaster, whether it is natural disaster or attack by an enemy, must consider all three sides of this triangle.

The military elements could not carry out their mission without complete support from the industrial capacity. The individuals of the civilian communities provide the industrial capacity. Further, the individuals in the military force will be more effective when they are assured that their families and relatives, in the civilian communities, are protected from any disaster and that adequate plans exist to provide that protection.

When the military situation would permit, the military services have always stood ready to provide assistance to civil authorities in an emergency. Many examples of such assistance could be cited from the first days of the organization of our national government up to the current period. One very good example is the participation of military personnel in the attempts to control the many forest fires that occur during the dry periods on our West Coast. Specially organized groups and occasionally entire units are committed from military installations for assistance of this kind. This, of course, is civil disaster support by active military forces, but we will soon see how the Reserves fit into the picture.

Planning for utilization of military forces in support of civil disaster has existed, in some measures, for decades at the local level. Formal planning, however, began at higher headquarters levels after the passing of the Federal Civil Defense Act of 1950. This planning was based on the coordination of military installation defense plans with adjacent metropolitan areas to the extent permitted by military

security. Since most military installation defense plans were and are still classified, very little coordination could be effected with civilian agencies.

In 1956, a Department of Defense directive was published which placed the responsibility for coordinating the planning and rendering of military assistance to civil authorities in domestic emergencies upon the Department of the Army. The Department of the Army was also charged with the coordination and control of the participation of the Departments of the Navy and Air Force, in this respect. This authority was delegated down to commanders of Zone of the Interior armies.

A policy was established which provided that selected military personnel would be organized into provisional Civil Defense teams, including, as practicable, groups especially qualified in emergency services appropriate to the Civil Defense mission. These qualified groups extended to nearly every branch of service in the Army and many in the Navy and Air Force as well. Teams from active Army units were formed and trained for mass feeding, fire fighting, mass burial, emergency construction and many other support functions. All this support was to be made available for a limited period and used only as long as the need for the assistance outweighed the need for the employment of the personnel in direct support of other military operations.

In the medical field these teams were formed:

	Numbers and Sources of Personnel			
	MC	DC	ANC	EM
Sorting team	2	2	0	23
Ambulance detachment.....	0	0	0	14
Surgical detachment.....	3	0	1	3
Orthopedic detachment.....	3	0	1	3
Shock detachment.....	1	0	0	2
Medical detachment.....	1	0	0	8

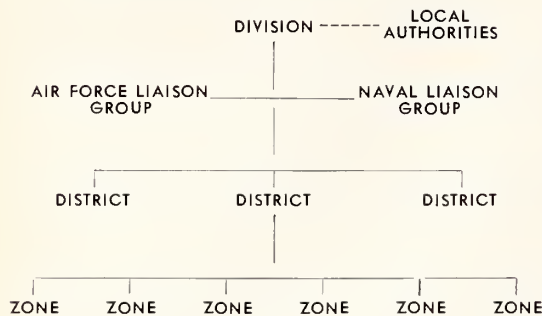
MC=Medical Corps; DC=Dental Corps; ANC=Army Nurses Corp; EM=Enlisted men.

The team designations are taken from the well known *Army Table of Organization and Equipment 8-500*. This group of teams provided a sorting, treatment and evacuation capability at every active Army installation. The number of possible teams was

Presented as part of a Symposium on Disaster Medical Care at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

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Chart 1.—Typical Division Organization for Use If Civil Control Is Destroyed or Overwhelmed.



limited only by the qualified professional and technical medical personnel assigned to an installation.

In September 1960 our old guidelines were superseded by a new Army regulation. Many of the old policies remained in effect with slight variations. Several important factors were changed, however.

First, the requirement for conditions of military installation defense plans with civil authorities, to the extent permitted by military security, was changed, obviating the necessity of utilizing classified defense plans. The new policy directed coordination with civil authorities of the policy and program aspects of military relations needed to prepare for and function during domestic emergencies.

Second, emphasis is now placed on the "one army concept" which places military support to Civil Defense as a responsibility within the mission of all active and reserve units of the military services. In fact, this responsibility is second only to combat operations.

The provisional team concept has also been changed. The new regulation states that a special Civil Defense force in the Army will not be created by earmarking, precommitting or otherwise setting aside certain forces or supplies directly for Civil Defense tasks. Army readiness to execute Civil Defense emergency support missions will be accomplished by contingency planning which takes full advantage of the existing organization, disposition and command structure of the Army, both active and reserve. Training will continue in order to maintain the capability of providing any emergency assistance required that falls within the knowledge and competence of military personnel.

All published materials emphasize the fact that military support is complementary to, but not a substitute for civilian efforts, and will be directed toward the strengthening of the capabilities of civil agencies, with particular emphasis at the state and local levels.

Further guidance has recently been received from Department of the Army in the form of a field man-

Chart 2.—Typical District Organization.

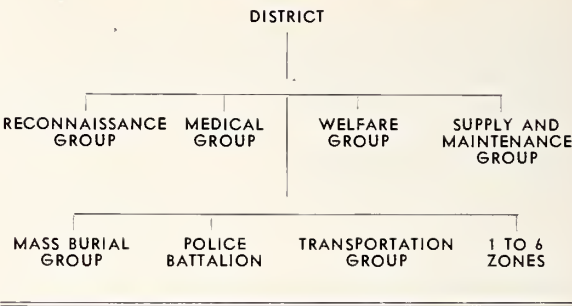


Chart 3.—Typical Zone Organization.



ual entitled *Civil Defense*. This publication is a guide to the organization for military support to Civil Defense.

Army plans for operations in a Civil Defense emergency role provide a concept for the employment of forces under each of the following conditions:

A. Support of civil authorities and agencies which are still functioning and have a capability of maintaining direction and control of the operation. (Type "A" Mission.)

B. Assuming complete control of operations in the event civil control or leadership is destroyed or overwhelmed. (Type "B" Mission.)

In the Type "A" Mission, the teams, which I described earlier, or entire units of active or reserve military forces will be utilized with little or no change in organization structure.

In the Type "B" Mission, specialized military units, where available, or military cadres will be used to assemble and direct civilian resources, both personnel and materiel.

The control structure in the Type "B" Mission contains three basic elements: Division Command, District Command, and Zone Command (Chart 1).

Since we are mainly interested in medical participation, I will not attempt to explain the entire support organization. I must also reiterate that this is only a concept. Briefly, the Division Commander has a staff patterned on an Army division staff. Slightly more than one-third are military and the remainder are civilians. As an example, the Provost Marshal might have the Chief of Police as his civilian counterpart. The Division Surgeon's staff would be composed of 18 military and 36 civilians.

Chart 4.—Typical Zone Medical Group, Organization and Personnel.

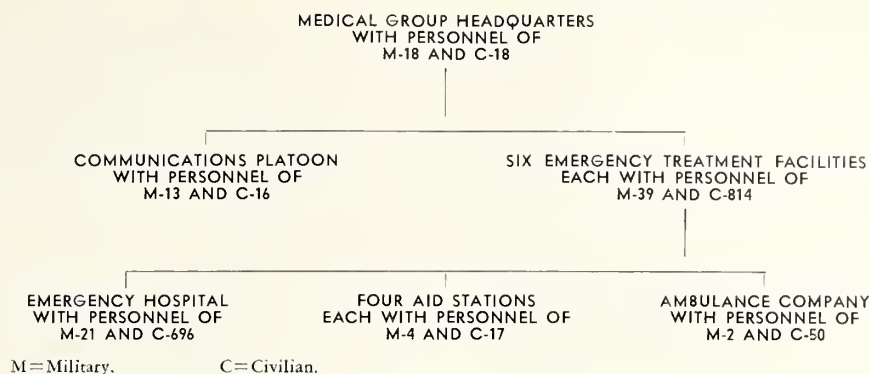
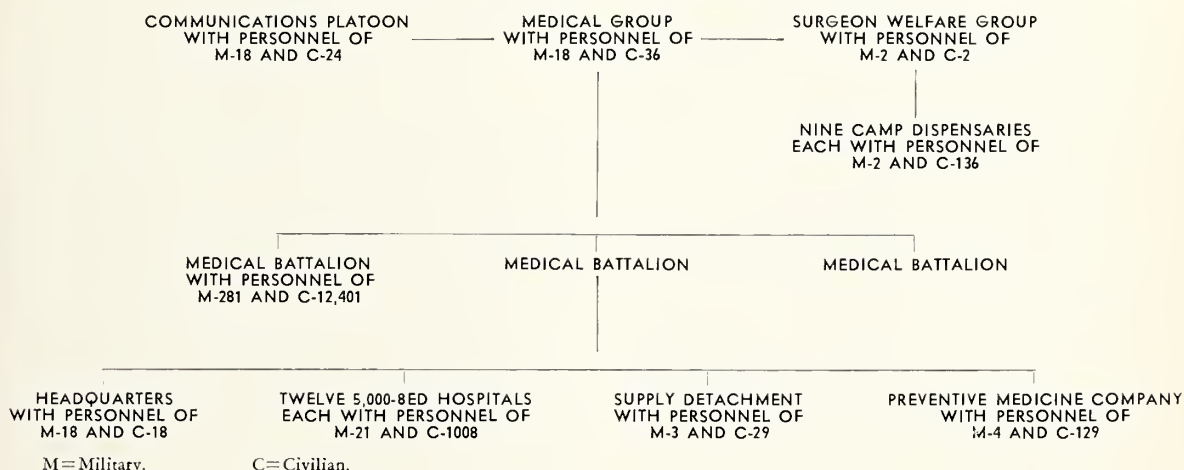


Chart 5.—District Medical Group, Organization and Personnel.



A typical district organization is shown in Chart 2.

The district organization consists of groups. The District Medical Group Commander would also be the District Command Surgeon. One district can command and control up to six zones. Each zone in the organization also is divided into groups (Chart 3). It is in the zone command that the necessary personnel and resources actually deal with the damage and the casualties.

In the medical organization, the zone command (Chart 4) will provide initial medical support for a zone of approximately 12 square miles within a devastated metropolitan area. There are a total of 24 aid stations, 6 ambulance companies and 6 emergency hospitals to handle the medical workload within each zone.

The emergency hospitals are patterned on the Civil Defense Emergency Hospital unit but actually each has a few more personnel than prescribed for the operation and manning of two Civil Defense Emergency Hospitals. Since it is double in size and resources, this medical unit would have a 400-bed capacity and compare functionally with the Army

400-bed evacuation hospital. There are 21 military personnel spaces and 696 civilian personnel spaces allocated for its staffing. This increase in number of positions over that recommended for the regular OCDM 200-bed hospital adds a feeding capability, laundry service and obstetrical service which are not included in the Civil Defense Emergency Hospital organization.

The small military staff is intended to provide a hospital headquarters and to coordinate the functions of the organization.

Chart 5 shows the organizational structure and personnel of a District Medical Group.

Planning, currently in progress, places the responsibility for provision of the major portion of the cadre personnel on Reserve and National Guard units. Headquarters Sixth U.S. Army has provided basic planning guidance to the XV Corps Headquarters, which is located at Presidio of San Francisco. They, in turn, are in the process of providing guidance, down to unit level, within their area of responsibility. *Much remains to be done to provide satisfactory support plans.*

The best possible example of the proportions of any planning can be illustrated by using the Los Angeles area for purposes of illustration (Figure 1). Los Angeles and surrounding communities are within a Division Command. The total populated area is equivalent to approximately 900 square miles. Now we must make some assumptions. (1) A 20-megaton atomic weapon would cause complete destruction within an area of 4 miles radius from ground zero, or 50 square miles. We can assume there is very little, if any, medical care required in this area. The 20-megaton weapon can be expected to cause second degree burns and structural damage to a radius of 15 miles from ground zero, which will take in an area of 700 square miles. (2) Since Los Angeles is primarily built on suburban living, causing a greater dispersion of population, we will assume that one zone command could double its area of responsibility. We stated earlier that a zone usually takes in 12 square miles in a heavily populated area. Therefore, we would have a minimum of 27 zones remaining where some medical care would be required. (3) Assuming there were 27 zones, then there will be a minimum of five District Commands required (six zones per district).

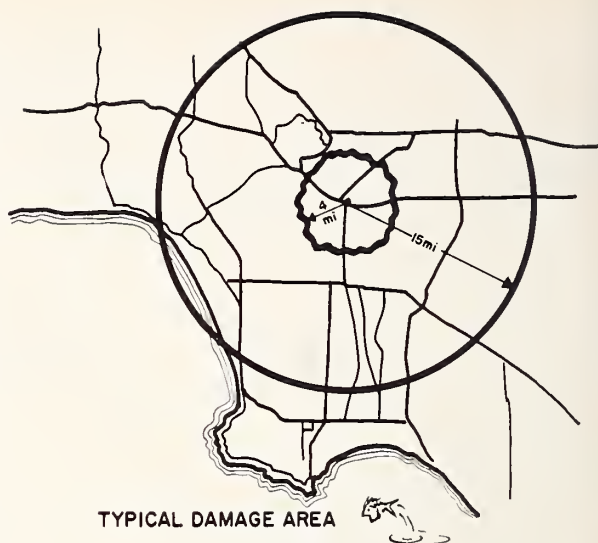
The organization for medical support *alone* will be tremendous. The following medical units would be required:

No.	Type	Personnel	
		Military	Civilian
5	District medical group headquarters..	90	180
5	District communication platoons	90	120
15	Medical Battalion headquarters	60	1,935
15	Supply detachments	45	435
15	Preventive medicine company	60	1,935
180	Hospitals, 5,000-bed	3,780	181,440
5	Welfare group surgeon section	10	10
45	Refugee camp dispensaries	90	6,120
27	Zone medical group headquarters	486	486
27	Zone communication platoons	351	432
162*	Emergency treatment facilities	6,318	29,808
162*	Emergency hospitals	3,402	112,752
648*	Aid stations	2,592	11,016
162	Ambulance companies	324	8,100
		17,698	354,769

*Support moves to outer areas12,312 153,576

These figures pertain to medical support only. Many other support factors also must be considered.

At first glance, it might appear an impossibility to accomplish such an operation. We feel that the 5,000-bed hospitals, which would be located outside the perimeter, would not all be required immediately. The major portion of the casualties would be processed through the emergency treatment facilities, aid stations and emergency hospitals in the first 48 hours. As their workload diminishes, this personnel could be moved to perimeter medical support, allowing double utilization of nearly half the civilian personnel and two-thirds of the military.



TYPICAL DAMAGE AREA

Figure 1

It is easily discernible that all the trained medical personnel of the military and civilian populace are far from sufficient to man such an operation. This is only one reason why the Army, in particular, is placing so much emphasis on every individual being trained in the self-aid or buddy aid systems. All active Army, Reserves and National Guard members, regardless of branch, are receiving the training on a mandatory basis.

The supplies and equipment to provide hospitalization and emergency care will be obtained from OCDM stockpiles or procured by Civil Defense authorities and/or be supplemented by military supplies on a reimbursable basis so long as the primary military mission is not jeopardized.

Coordination with the U. S. Public Health Service and Office of Civil Defense Mobilization has been effectively carried on at the higher headquarters levels and coordination with local authorities will become more obvious as Reserve and National Guard units become apprised of their responsibilities and receive their detailed guidance. Although the Army's Civil Defense plans appear to be all-encompassing for a Type B Mission, one of the policies to be followed in the preparation of these plans is that "care will be exercised to assure that they are based to the maximum extent feasible upon existing plans prepared by civilian Civil Defense authorities since recovery actions necessarily commence at the local level."

The major policy, however, is that of withdrawing the military forces as soon as civil control can be reestablished. This is the primary reason for the military cadre organization, with a civilian counterpart capable of assuming supervision. Therefore, it is still, essentially, a civilian problem that remains.

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Disaster Medical Care

The Basic Hospital Disaster Plan

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THE PAST TWO YEARS have shown a most significant advance in the acceptance of disaster medical care planning by both physician and hospital. Stimulus in some instances has come from motivated medical or hospital groups, who, having passed through a disaster indigenous to their community, decided to be better prepared "next time." Others were motivated by a feeling that they should contribute to the security of their community and the nation by being prepared for casualty care, large or small.

In December 1957, the Joint Committee on Accreditation of Hospitals recognized the importance of hospital disaster planning. As a point in the scoring for accreditation, every hospital must have a Disaster Plan. To realize the shortcomings or adequacies of the plan referable to the reception, care and evacuation of mass casualties, a rehearsal is to be held biannually.

Since that item was added to the scoring for accreditation, there has been a sharp increase in the number of hospital disaster plans. There was no uniformity in plans, no basic criteria having been agreed upon by the American Medical Association, the American Hospital Association, and the Joint Committee on Accreditation of Hospitals. The only source of reference was the *Principles of Disaster Planning for Hospitals*⁴ of the American Hospital Association.

Since the *principles* were written, new problems, such as extended "fallout" and shelter must be considered. In addition, the hospital now comes in for a greater part in the national program for survival. It will become increasingly more closely associated with this effort through local, state, and national levels of Civil Defense, the National Red Cross, Salvation Army, the use of Armed Forces Medical Reserve Units and the Division of Health Mobilization of the United States Public Health Service.³

It seems necessary that a few basic criteria could be suggested which might be incorporated in every hospital disaster plan, whether for a large or a small facility.

We must consider two provisions of overall planning in all Hospital Disaster Plans, namely²:

1. *Phase Disaster Planning of three types*, and
2. *Objectives of Hospital Disaster Planning* based on local or total disaster.

Phase Disaster Planning

All hospitals in their disaster planning should have provision for three phases, namely²:

Phase One: For disaster within the hospital—fire, explosion, earthquake damage, epidemic—with provision for care of patients, personnel and facility.

Phase Two: For large scale local disaster due to any of the foregoing, but in which the hospital functions to receive large numbers of casualties from the community or area it serves.

Phase Three: For total disaster due to widespread national destructive forces. (Phase Three is best discussed in more detail in connection with the second provision—*Objectives*.)

Objectives (Reemphasis on Phase Three Planning)

In local disasters hospitals, whether urban, suburban or rural, will have as their objective, adequacy of planning for the rapid initial and final definitive care of incoming casualties. Planning for mutual aid in the event of overwhelming loads must be included.

In total disaster the objective will differ in degree according to the location of the hospital—whether in target or nontarget city. Because of this factor, planning must differ. *The objective of target city hospitals will be* planning that will provide all possible means to preserve patients and personnel, in order that function for casualty care may be resumed. This will be accomplished by planning for strategic evacuation to peripheral areas if adequate warning time prevails, or, if not, the institution of techniques to carry on casualty care within its existent facilities.

The objective of the peripheral nontarget hospital should be that of support of the target hospital and reception and care of its patients and personnel if it had to be evacuated, or to function as a major facility for casualty care, to be augmented by pre-planned improvised additions, such as the Civil Defense Emergency Hospital.⁶

Presented as part of a Symposium on Disaster Medical Care at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Chief, Medical and Health Services, Region 2, California Disaster Office; Member, American Medical Association Committee on Disaster Medical Care; Member, California Medical Association Committee on Disaster Medical Care; Consultant, Disaster Medicine, U. S. Public Health Service.

Disaster plans should be fitted to the hospital—its type, size, location and proximity to what would be probable target areas in the event of total warfare.

Organization for Disaster Operations

Total organization for disaster operations cannot be based on the normal organizational structure for useful activities.⁷ Large hospitals with departments and clinical services must have a specific plan with subplans as a part of the total effort. Basic provisions, however, apply to all hospital planning.

The Authority (Hospital Disaster Headquarters)

The authority for the direction of the disaster care plan should be vested in the administrator or his designated assistant, the administrator being cognizant at all times of the entire function of his hospital, his personnel and in particular his supplies. The fact that all physician personnel will be needed for casualty care in a large disaster must be considered in planning. A medical coordinator, however, should be designated. He may be the chief of staff, or the chairman of the hospital's committee on disaster medical care. He should direct the professional services and consult with and advise the administrator as to treatment and disposition of casualties.

Basically, a selected area adjacent to the communication center of the hospital should be reserved as the hospital disaster headquarters. This should be staffed by the administrative coordinator and sufficient clerical help. In larger hospitals additional personnel, such as assistant to the administrator and representatives of departments will augment the staff.

Alerting

A well planned alerting system, regardless of hospital size, is a primary requisite to efficient casualty care. Omitting such planning can result in complete chaos. The planning must define the authoritative sources from which notification of disaster must come before an alerting sequence can be started. No deviations from the prescribed routine may be tolerated unless they are in accordance with pre-arranged alternative plans.

Personnel vital to the plan must be listed and known by the on-duty personnel of the communication center—usually the switchboard operator or the equivalent. The "fan out system"—notification of key personnel only, then such personnel in turn notifying members previously assigned to them as their responsibility—is the procedure recommended to prevent overloading of communication facilities and personnel.

Communications

Communication is the backbone of any disaster plan. In real disasters, a breakdown of communica-

tions is always reported as the most disruptive single factor. Minimum communication requirements today in every hospital include:

1. The hospital switchboard.
2. Private unlisted telephones with available "tie-in" with local police, fire or organized Civil Defense authority.
3. In lieu of above, the isolation and use of available "pay phones" to function in the same manner.
4. Either installed shortwave radio linked with a local network of police, fire and organized Civil Defense and other hospitals, if there are any, in nearby areas. In lieu of installed equipment, the same service can be provided by means of pre-arranged use of amateur radio operators and their equipment for the network needed. This of course takes advance planning by some Civil Defense agency.
5. Messenger, foot or vehicular, when possible.

Evacuation

Disaster planning must include methods for evacuation of patients from hospitals under three conditions, namely:

1. Evacuation of patients to homes or planned improvised hospitals to permit use of facilities for anticipated incoming large casualty loads.
2. Evacuation of patients to peripheral nontarget area hospitals if there has been adequate forewarning.
3. Evacuation of patients in an orderly manner if necessary because of internal disaster within the hospital.

Planning should include a simple daily listing of patients by wards, showing which patients can be moved without great danger to them and which should be moved only in extreme circumstances.

Traffic Flow Pattern

All plans should contain a clear sketch of terrain outside the hospital and plans of the facility itself, designating in particular the area through which casualties will enter, decontamination area, first aid area, holding and definitive care areas, shelter area, and evacuation area.¹ In particular "flow" must be kept one way continuously from the casualty area to the point of definitive care. The "flow pattern" must be understood by all hospital personnel.

Casualty Care

To adequately care for an incoming casualty load, planning must provide for:⁵

1. *Records.* Brief records must be kept of all entering casualties. If possible an accounting must be kept of patients' personal effects. Copies must be supplied to the administrator-coordinator for main-

taining patient identification, for information to relatives and the press, for bed census, and the like.

2. *Sorting (Triage)*. A sorting area must be clearly designated in the hospital facility. It should be on the first floor facility and as close as possible to the clinical diagnostic facilities of the hospital. Physicians and nurses appointed to this function should be experienced in dealing with injured patients in order that priorities for treatment can be recognized quickly.

3. *Decontamination*. A decontamination area is a necessity for all hospitals likely to be on the periphery of a target area. Areas lacking monitoring equipment, but receiving casualties from known strike areas, can use prophylactic washdown techniques.

4. *First Aid*. A first aid facility should be within walking distance and well separated from the sorting area so that patients may be directed from the sorting area for minor treatment and then discharged.

5. *Holding and Definitive Care Areas*. In smaller hospitals, one area may serve both for holding and definitive care. If space and personnel permit, separate areas can be considered. The holding area should be for the relief of pain, shock and further diagnosis of casualty injury. The definitive care area will serve for further long-term care after diagnosis and initial treatment, whether conservative or surgical.

Personnel

Planning for personnel in any hospital, regardless of size—and especially in event of large scale disaster with mass casualties—must provide three work shifts and services on a 24-hour basis. Professional and nonprofessional personnel will thus be kept at peak function.

Supplies

Supplies needed will be of three kinds:

1. *Medical*. Every hospital must individually be cognizant of its current inventories. Medical supplies sufficient to treat a 100 per cent increase in bed census for a period of 72 hours might be sufficient for large scale local disaster. In total disaster, even a large stock sparingly used might be insufficient. The effort should still be made to preserve all supplies possible, in order that at least minimal care on a strict survival basis might be rendered for a period of 60 days, as stressed by the Division of Health Mobilization, USPHS.

2. *Health Items*. Sufficient quantities of chloride of lime, D.D.T., roach powder, rat poisons, etc., must be kept on hand.

3. *Food*. The amounts of staple items needed for the periods stated in Item 1 must be determined.

Calculations must take into account the amounts needed for shelter wards.

Engineering

Auxiliary power for heat and lighting must be provided, either through use of facilities already on hand or reliable access to mobile auxiliary power which can be brought to the hospital. Engineering plans should provide sufficient equipment to repair the ordinary mechanical breakdowns that may occur in a period of 72 hours, and thought must be given to means of improvising to give at least limited service should the period be extended to 60 days without outside help.

An adequate water supply must be assured. Sources such as canned water, underground reservoir or wells and covered swimming pools, in addition to water in the hospital pipe systems, must be available and listed.

Shelter

For extended long-range protection from radioactive "fallout," as well as the blast effects of the newer weapons, it is necessary that all hospital disaster plans provide for a survival shelter. The shelter should be efficient enough to reduce radiation exposure to one-thousandth the amount outside. As nearly as possible the specifications of OCDM should be followed. Planning must provide for sufficient equipment, drugs, food and sanitary facilities for the shelter area.

Test Exercises

A hospital disaster plan should be tested to make sure that it serves as it is intended to serve. Such trial exercises should be held annually. Following the exercises a written appraisal of the plan should be made available to all staff members and hospital personnel for study and review. For hospitals being examined for accreditation, the appraisal can be reviewed by inspectors for the Joint Commission for evidence of the disaster preparedness of the hospital.

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Vocal Nodules

A High-Speed Photographic Analysis: Notes on Treatment

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VOCAL NODULES are small benign tumefactions on the margins of the vocal cords due to vocal abuse (Figure 1). They are perhaps more popularly but less correctly called singers' nodes. Vocal abuse is a relative term, for what constitutes excess to one may represent only casual effort to another, and mere loudness may be less traumatic than faulty production. However, this essentially mechanical basis for nodule formation has always been an accepted part of otolaryngologic teaching.

Within the past few years it has become increasingly apparent that psychologic factors may also play an enormously important role.^{7,8,11,21} Laryngologists have long been aware of a direct relationship between the psyche and voice,^{2,3,16,18} and functional dysphonias are well known. This concept has extended to nodules, and attention is being directed to the specific nature of the disordered emotional states. Heaver⁸ expressed a psychiatric point of view in stating, "Vocal abuse which results in nodes and polyps appears in patients who use their voice for the expression of their excessive hostility and aggressive impulses."

Vocal nodules may be an expression of simple vocal abuse on the one hand, emotional disturbances on the other, or probably most often a combination of the two.

SYMPTOMS AND DIAGNOSIS

In the speaking voice, nodules cause varying degrees of hoarseness and raspiness. In the singing voice there is roughness, inability to sustain tones or strike them accurately, and difficulty reaching notes formerly attained with ease. The upper levels are usually affected first and, as the singer forces, dysodia extends downward. The singer may or may not note irregularities in the speaking voice also. Although vocal disturbances are usual with nodules, no single complaint is pathognomonic, and diagnosis cannot be made without visualization of the larynx. Occasionally a person with a typical small

• Vocal nodules are benign tumefactions on the vocal cords due to excessive or improper use of the voice. They vary in size, shape, location and histologic composition and are essentially a clinical rather than a pathologic entity.

High-speed motion pictures at 5,000 frames per second revealed that they disturb the normal vibratory pattern in the same manner as benign tumors of the vocal cords generally. Treatment consists of vocal rest, vocal reeducation, and surgical operation, singly or in combination.

nodule may be completely unaware of its presence and have an apparently normal voice.

Diagnosis is made by mirror examination of the larynx. In most children and in adults whose gag reflex prevents indirect laryngoscopy, direct visualization of the larynx is necessary.

GROSS AND MICROSCOPIC APPEARANCE

A vocal nodule is essentially a clinical rather than pathological entity, and a somewhat indefinite one at that. The normal vocal cord may be divided into a posterior one-third consisting of the vocal process of the arytenoid and an anterior two-thirds of thyroarytenoid muscle. A nodule is usually situated at the junction of the anterior and middle thirds of the vocal cord or, stated another way, at the center of the membranous portion (Figure 2). This



Figure 1.—Bilateral and symmetrical vocal nodules.

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Presented before the Section on Ear, Nose and Throat at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.



Figure 2.—Vocal nodule situated at the junction of the anterior and middle third of the left vocal cord.

is usually the point of maximum impact in vibratory excursions of wide amplitude. Sometimes, however, nodules are located elsewhere, notably on the middle third of the vocal cord just anterior to the vocal process. They may be single or bilateral. If bilateral they are usually symmetrical but not invariably. In size they vary from swellings so minute as to be confused with small flecks of mucus to tumorous projections which might just as properly be termed sessile polyps.

Microscopically the classically small tumefaction at the junction of the anterior and middle thirds of the vocal cord was designated by Jackson⁹ as an edematous fibroma. Nodules, however, embrace more than this, and it has been shown that there is virtually no correlation between gross and histologic appearance.

Ash¹ and Epstein⁴ expressed belief that nodes and polyps are nontumorous swellings which represent different stages of the same basic condition, namely, a reaction to trauma. Histopathologically, Ash designated them as fibroid, polypoid, varicose and hyaline, with considerable overlapping (Figure 3) of types; and he classified all such benign "growths" as nodes. For this reason polypoid tissue stripped from a cord and clinically bearing no relationship to a nodule may be reported as a laryngeal node by the pathologist in accordance with the histologic classification of Ash. On the other hand a localized elevation which appears to be a typical vocal nodule may prove microscopically to be something quite different, perhaps even an early carcinoma.

There is certainly no unanimity of opinion about the gross appearance or histologic composition of nodes, and this diversity is statistically revealed by two sizable series of cases. Fitz-hugh⁶ reported 300 benign lesions of the vocal cords of which only 11

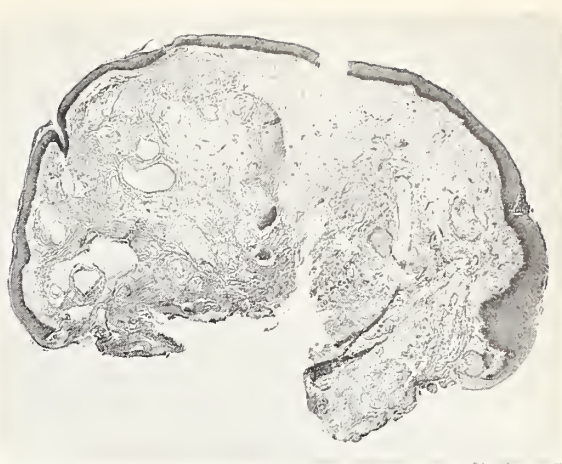


Figure 3.—Vocal nodule showing edema, fibrosis and vascular channels ($\times 40$).

were submitted with a clinical diagnosis of nodule, but 134 were recorded as nodules by the pathologists. Stewart¹⁷ reported 366 benign vocal cord tumors and listed among them 61 inflammatory polypi and 43 fibromata but not one nodule. Vocal nodules invariably conjure up a certain stereotyped image, but they extend beyond this to limits not yet clearly defined.

HIGH-SPEED PHOTOGRAPHIC OBSERVATIONS

The unaided eye perceives and the ordinary motion picture camera records vibrations of the vocal cords without yielding information about their inherent nature. High-speed photography at 5,000 to 3,000 frames per second delineates each separate vibratory cycle, thereby making it possible to detect otherwise undemonstrable aspects of laryngeal behavior. The method far surpasses stroboscopy for detailed analysis by revealing consecutive rather than isolated sequences of the vibratory cycle.

The basic technique of high-speed photography of the larynx was developed by the Bell Telephone Laboratories,⁵ and their pioneer film is a landmark in this work. The method has been successfully applied and elaborated by others, notably Moore¹⁰ and von Leden.¹⁹ Subjects must be carefully selected because the laryngeal mirror is rigidly fixed, and it is difficult to bring an open-mouthed patient over a fixed mirror and obtain good laryngeal exposure. When the larynx is brought into view, the motorized camera is activated.

A technique was recently described by the author¹² in which the laryngeal mirror is not fixed but rather is introduced into the throat by the examiner in the same manner as for indirect laryngoscopy. This renders much simpler the photographing of difficult subjects such as an apprehensive

ill patient or a temperamental singer. Utilizing this technique, 18 patients with vocal nodules were studied, and the high-speed photographic observations¹³ form the basis of this report. Included in the group were fifteen adults (four males and eleven females) and three children ranging from eight to fourteen years of age. Each subject vocalized at moderate to loud intensity on a pitch which best exposed the larynx. Intensities were not specifically calibrated.

In a high-speed photographic study of patients with benign lesions of the vocal cords, including one with vocal nodules, von Leden and coworkers²⁰ noted a variety of deviations from normal vibratory patterns. They found that the effect of benign cordal lesions on cordal vibrations is due essentially to their size and location and not to their histologic structure. Hence there may be wide variations among tumors of identical nature. Generally speaking, space-occupying lesions interfere with free vibrations of the vocal cords by "weighting" them and restricting their movement or by occupying some of the medial margin and preventing proper cordal apposition.

In this series the high-speed photographic behavior of nodules was like that described by von Leden for benign tumors, and there were no distinguishing features. Although individual variations are innumerable, the over-all effect of vocal nodules on the vibratory pattern may be summarized. The vocal cord on which the nodule is situated is often immobilized to a varying degree. The affected cord may seem so stiff as to make it appear as though it moves only by reason of being pushed by its actively vibrating mate. This will give rise to asynchronous vibrations and phase shifts. Small nodules, however, may cause no perceptible alteration in normal vibratory movements, or they may be accompanied by such extreme changes as to excite suspicion that faulty vocal production is more responsible than the nodules. A nodule may remain between the vocal cords at all times or it may appear prominently within the glottic chink as the cords spring laterally, and then disappear from the glottal chink and take up position on top of the cord as the cords snap back to the midline. This is due to the inertia of the nodule, which causes it to be dragged after the vibrating vocal cord. Nodules which appear firm to the eye on high-speed photography often have a softness characteristic of polyps. This might be expected since the distinction between the two is frequently a matter of size rather than histologic.

Vocal nodules usually disturb the voice severely in its upper reaches, and in two sequences the mechanism by which this occurs was suggested.

Vocal cords are less tense at lower pitches and strike each other over a relatively wide area. As pitch ascends, they become more taut and the contacting surfaces thinner. A small node was seen to be lost in this massive type of movement characteristic of lower levels and was not identifiable. At higher pitches it stood out sharply on the tense cordal margin and effectively prevented complete cordal approximation.

Nodules are frequently the cause of breaks or cracks in the voice, and in two instances these occurrences were captured photographically. During normal phonation the vocal cords sprang apart and then came together at regular intervals, the frequency of these periodic movements determining pitch. When the voice broke, these rhythmic cordal movements became completely irregular, with resulting interruption of the definitively pitched tone. The chaotic movements superficially resembled cordal action in the falsetto break, but there was a fundamental difference: In the break associated with nodules the vocal cords continue to strike each other irregularly and haphazardly, whereas in the falsetto break¹⁴ they do not touch each other. The explanation for this lies in a basic difference between the two mechanisms. In the break associated with nodules there is no change in intrinsic cordal tension but merely an upset in the delicate balance between cordal tension and subglottic air pressure with relative overblowing, whereas in the break related to the falsetto there is a quick relaxation of the thyroarytenoid muscles with resulting inability of the vocal cords to oppose the rising air column successfully and meet in the midline.

High-speed photography demonstrates with remarkable clarity the innumerable and subtle ways in which nodules may distort the normal vibratory pattern.

TREATMENT

There seem to be as many different opinions on the proper management of vocal nodules as there are laryngologists and speech pathologists writing about them. This suggests, of course, that there is no ideal treatment, a fact which should occasion no surprise in view of the variegated etiologic and pathologic pattern.

Three therapeutic modalities are available—surgical operation, vocal rest and vocal reeducation. One or two or all three may be utilized in any given patient. Operation alone will afford only temporary relief, and the nodule will recur if either vocal excess or improper production remains uncorrected. Conversely, vocal rest and retraining will not effect a resolution of the nodule if it is histologically incapable of regression. Each situation must be judged on its merits.

Regardless of the appearance of a nodule on the initial examination, a trial period of absolute or relative vocal rest is desirable for two reasons. First, the nodule may disappear or become smaller, and second, adjacent cordal irritation or edema will be reduced and the exact limits of the nodule more clearly defined. Complete vocal rest implies no talking, coughing or clearing of the throat. Whispering is controversial but need not be traumatic if properly performed—that is, by the lips on a simple exhalation. High-speed photography¹⁵ revealed that, when this is done, there is movement of the vocal cords but no forcible contact on exhalation. This contrasts with the stage whisper, which involves both squeezing together of the membranous portion of the vocal cords and vibratory activity, and must be avoided. Relative voice rest, which may be a necessary compromise for domestic or economic reasons, calls for the avoidance of specific trauma such as unduly loud talking or singing in the upper part of the vocal range. If even this is not possible as, for example, in the case of an entertainer or a mother with small children, the laryngologist must then institute voice training at once and, unless specifically qualified in these techniques, he should seek the assistance of a speech pathologist. In any case in which there is suspicion that improper use of the voice above and beyond mere excess is a factor, formal voice training should be instituted.

While the patient is on a definite regimen within his limitations, he must be observed no less frequently than every 14 days. If the nodule decreases in size, conservative management may be continued. If it remains unchanged or reaches a point beyond which there is no further diminution in size, surgical operation is indicated.

Because of the technical precision required in the removal of nodules, they are best approached by direct laryngoscopy. Instrumentarium and type of anesthesia will depend upon the propensities of the surgeon. Following a week or two of complete post-operative vocal rest, as determined by the appearance of the larynx, the patient may begin to use his voice, and the laryngologist should decide whether voice therapy is to be instituted or if already begun, continued.

Sometimes patients date the onset of their vocal difficulties to a specific abusive episode, such as talking or singing over a cold or laryngitis. In instances such as these, vocal techniques may be quite correct, and surgical removal of the nodule will effect a permanent cure. If there is associated and underlying improper use of the voice, vocal analysis is necessary to determine its nature, and vocal training will be mandatory. Exercises designed to relax the laryngeal musculature, promote proper

breathing, correct aberrations of pitch, and soften the vocal attack are to be found in most standard texts on speech and voice and are part of the therapeutic armamentarium of speech pathologists. Although there may be significant contributing emotional factors, therapeutic response to classical orthophonic methods is so successful that specific psychiatric attention is not usually necessary. With increasing awareness of the various elements at work in the causation of vocal nodules, their persistent recurrence bespeaks not so much inherent laryngeal weakness as it does inadequate management.

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Therapeutic Exercise in General Practice

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PHYSICIANS PRESCRIBING THERAPEUTIC EXERCISE sometimes have to cope with problems related to lack of adequate numbers of therapists to treat all patients, or pain so severe as to preclude conventional exercise, or debility so far advanced that therapeutic exercise has to be done with minimal expenditure of energy.

Searching for possible answers to these problems, I have drawn from experiences of European and American investigators and have incorporated some of my own. The discussion deals with the concept of a single daily maximal isometric contraction as a strength-developing technique, the phenomenon of cross transfer of strength and a consideration of three factors of importance in formulating an exercise program: Rate of exercise, total work involved and daily increments in resistance.

In 1953 Hettinger and Muller,⁵ after working with young adults, postulated that increases in strength of 5 per cent per week can be obtained by employing a 6-second maximal isometric contraction once daily. Subsequent work by these investigators⁹ led them to the following conclusions:

1. This increase in strength is possible even when the training load is as little as one-third of maximal strength.
2. Muscle strength increases more rapidly with increasing intensity of training load up to about two-thirds of maximal strength.
3. One practice period per day in which the tension is held for six seconds results in as much increase in strength as longer periods (up to full exhaustion) and more frequent exercise.
4. A muscle trained to a high level of performance can be maintained indefinitely at this level by one maximal contraction effort per week.
5. Loss of strength in strict inactivity is about four times as rapid as the loss from a trained muscle after the end of training. The speed of regaining strength after a period of inactivity and atrophy is also four times the speed of the increase in strength in training a normal muscle.
6. The atrophy-preventing effect persists in older people whereas the training effect is lost.

A year later (1954) reports from American investigators who had been assessing the merits of the

• Newer techniques of exercise which rely on a static or isometric muscle contraction of six seconds' duration once daily offer great possibilities in the treatment of patients incapacitated by low cardiac reserve, joints that are painful on movement or debility too severe to permit a conventional exercise program for general conditioning. Increments of strength of up to two per cent per day can be thus achieved in normal muscles. Muscles deconditioned by immobilization respond at a faster rate. However, no significant muscle hypertrophy can be achieved by this technique.

This form of exercise can also be used by persons who are "too busy to exercise" but who may be willing to give two minutes a day to an exercise program designed to increase and maintain muscle tone and strength.

A considerable number of medical conditions could be treated more effectively and with less resultant disability if therapeutic exercises—passive, active and progressive—were accurately prescribed and supervised by a physician as part of the treatment program. Among the many conditions to be considered are poliomyelitis, peripheral nerve injuries, the neuritides, postural defects and cardiac diseases.

Hettinger and Muller method of strength development began appearing in the literature. Some modifications were introduced by each investigator in conducting his experiments, but in general the results obtained tended to confirm the validity of the concept of isometric exercises^{8,10,13,16} as an effective device for strength gaining. Mathews and Kruse⁸ found that isometric exercise caused a greater increase in muscular strength than did isotonic movements, even though the time spent in the isometric exercise program was considerably less. In studying the effectiveness of various work periods, they found the 5-day exercise program to be superior to programs consisting of two, three or four exercise periods a week. Rarick and Larsen¹⁰ compared the effectiveness of daily 6-second isometric contractions employing two-thirds maximal strength with that achieved by increasing the frequency of the bouts at tension levels of 80 per cent of maximal strength. They found that the exercise program involving greater tension levels and multiple daily bouts showed no significantly greater gains than those employing the single daily contraction.

Rose¹³ brought about steady increases in strength in the exercised muscles by the use of a single 6-

Presented before the Section on Physical Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30-May 3, 1961.

second sustained isotonic contraction of the quadriceps femoris. He also noted that daily increments of $1\frac{1}{4}$ pounds appeared to be optimal for strength gaining. These increments appeared to be independent of the original strength. In his opinion this substantiated the postulate of Hellebrandt³ that strength is a learned act and the ability to handle increased weights is cerebral in origin rather than muscular. Rose also found that, once optimal strength is attained, it can be maintained by training as infrequently as once a month. He pointed to this fact as additional proof that strength is a learned act.

Rasch and Morehouse,¹¹ testing the effectiveness of a 15-second isometric contraction at two-thirds maximal tension, found no significant gains after a six weeks training period of three days a week. A single training period of isotonic exercises resulted in an increase of 14 pounds in elbow flexion strength, which was not retained when tested six weeks after cessation of exercises. This was the only published study that could be found which contradicts the findings of Hettinger and Muller.

Walters, Stewart and Le Claire¹⁶ studied three different methods of developing elbow strength of the preferred arm. The subjects were young, healthy adults. Subjects in one group practiced holding full isometric tension each day; those in a second group held two-thirds of full isometric tension and those of the third group lifted one-third of the one-lift maximum as often as they could in a period of 15 seconds. The results of this study point to the following conclusions. (1) All the methods are effective in the development of strength and its retention; (2) the full isometric method is superior to the two-thirds method in strength development; (3) endurance tends to improve in both the preferred and non-preferred arms after training; and, (4) there is an improvement in strength in the non-preferred arm by all methods of training.

As a challenge to the contention of Hettinger and Muller that only the atrophy-preventing effect persists in older people, the author studied the performance of 20 members of the Soldiers Domiciliary of the Veterans Administration Hospital in Los Angeles. The average age of the group was 69 years (range 55-81). The subjects had serious disabilities, including arteriosclerotic heart disease, myocardial ischemia and Laennec's cirrhosis. The flexors and extensors of the legs and arms were exercised isometrically for six seconds daily five days a week. Since four muscle groups were exercised successively, the exercise time was 24 seconds daily. Patients were tested at the end of six weeks. The group registered an average gain in strength of 8.95 pounds in the arm flexors and 4.65 pounds in the arm extensors. Improvement in the strength of leg muscles was greatest in the flexors, the average

gain being 16.5 pounds (range, 6 to 35 pounds). The average gain of the extensors was 10.3 pounds (range, 16 to 30 pounds). At the completion of the six weeks of 5-day a week exercises, patients were given a maintenance program of one exercise workout a week. Five months later, on retesting, the strength was considerably higher than the initial levels. In about half of the patients available for study at that time it remained at or near the peak level attained at the completion of the six weeks training program. This is in agreement with the results of Rose¹³ and of Muller.⁹

This form of physical conditioning appears to be especially appropriate for patients too debilitated to undergo a regular progressive resistive isotonic exercise program. This technique seems suitable for patients in post-surgical convalescence, in patients with myocardial infarction, possibly after the fourth week, in those with muscular dystrophy and in those with joints too painful to tolerate conventional isotonic active or resistive exercise. For those who are "too busy to have time for exercise" it could be offered as a possible means of achieving and keeping physical fitness.

CROSS-TRANSFER OF STRENGTH

The concept of cross-transfer of learned skills and strength evolved as a result of studies by Scripture and Brown¹⁴ published in 1894. These investigators worked mainly upon the cross-transfer of acquired skills and they conclusively proved that it occurs. Hellebrandt and coworkers,³ Clarke, Shay and Mathews,¹ Klein,⁶ Rose¹³ and more recently Walters¹⁶ all confirmed the phenomenon of cross-transfer of strength. Liberson and Asa⁷ published in 1959 the results of their work, which did not agree with those of the above mentioned investigators. However, these investigators studied the cross-transfer effect on a very small and infrequently used muscle, the abductor digiti quinti, whereas the other investigators used the larger flexor and extensor groups of the arms and legs. It has been documented^{2,4,15} that transfer is greatest when work has been performed in overload, and this is more feasible when the larger muscle groups are exercised.

The cross-transfer phenomenon can be put to use in cases in which an extremity is so injured that active exercise is temporarily interdicted. By exercising the contralateral extremity, gratifying increases in strength can be obtained. Then, as the pathologic process subsides, active exercise of the affected limb can be started. However, for some unexplained reason an extremity that is immobilized in a cast does not receive strength by transfer. In such a situation the use of electrical stimulation through windows in the cast or an isometric con-

traction of only one-fifth maximal strength, which is possible by employing a bivalve cast, will prevent muscle atrophy.

In the treatment of knee injuries, exercise of the affected extremity benefits the contralateral limb incidentally. When a program of exercise is undertaken in such a case, the initial strength of the corresponding limb should be assessed to establish a baseline. The cross-transfer effect begins immediately, even though the unexercised leg may be stronger than the exercised limb. When an extremity is permanently damaged, as may be the case in poliomyelitis, the two strength development curves would be approximately parallel to each other, with the strength of the affected leg increasing but still remaining at a fairly constant level below that of the unexercised well extremity. When the disease or injury is reversible and of short duration, as in meniscectomy, the injured extremity will reach the level of strength of its counterpart and at the completion of the exercise program the strength of both the exercised, injured leg and its unexercised counterpart will be considerably greater than they were before the injury.

EXERCISE DOSAGE

In writing prescriptions for therapy with ultrasonic frequencies, diathermy or ultraviolet light, physicians generally specify the dosage desired and the duration of treatment. However, when prescribing progressive resistance exercise, it is only infrequently that the physician specifies the rate at which exercise should be performed, the total number of repetitions desired and the magnitude and frequency of increments of resistance. In the absence of such instructions, the therapist may make decisions that should be made by the physician, a practice that might retard the progress of rehabilitation.

For hypothetical analysis of a progressive resistive exercise program in terms of energy cost, horsepower developed and results achieved, let it be assumed that a patient performs ten exercises of twenty repetitions each, using a 5-pound resistance. Assuming that the average excursion of the weight against gravity is 12 inches, this patient will have performed 1000 foot pounds of work. (We may disregard the energy consumed in moving the arm only, since this figure will be practically constant for each repetition in the two alternatives to be considered.) If it takes this patient 30 minutes to go through the exercise program, he is "working" at a rate of 0.001 horsepower per minute. During the actual isotonic movement he will be working at a rate eight times higher. Now, if this patient should perform the same number of exercises with only one-fourth the number of repetitions, but with twice the weight, he could go through the same

program in approximately one-half the time. He would have spent half the energy, while exercising at the same overall rate of work. During the isotonic phase he will have contracted his muscle against twice the resistance. Yet his cardiovascular system is not being taxed to any greater extent. However, by creating greater demands on the muscle, yet reducing the number of repetitions, he will be achieving faster gains in strength with half the energy cost and half the time consumed. If we go one step further and consider the feasibility of using the 6-second daily maximal isometric contraction as a strength-developing technique, we will be reducing even more the work load imposed on the patient. The savings in therapist's time might also make it worth while. With a debilitated patient, this reduction in time and effort involved might be paramount.

Finally, we come to a consideration of the term *progressive*. A therapeutic exercise program can be progressive in three ways. It may involve an increase in the resistance used or the number of repetitions executed, or it may contemplate a progressive decrease in the length of time necessary to carry out the exercise program. The work of Walters¹⁶ indicated that with higher resistance and a decreased number of repetitions, we can achieve increases in strength faster and surprisingly improve endurance also. It has also been established that small daily increments¹³ are a most effective way of achieving maximum increase in the minimum time. It is also a matter of common knowledge that as physical condition improves the organism is capable of performing more work per unit of time. It seems reasonable, then, that these factors *should be given* careful consideration in the formulation of exercise programs for patients.

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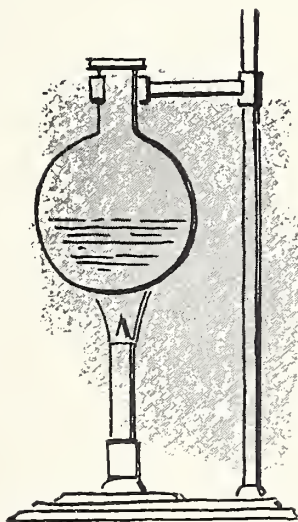
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Mitral Insufficiency and Mitral Stenosis

Surgical Treatment Using the Heart-Lung Machine

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IN A PERIOD OF two and a half years, operation with the heart opened to expose the surgical field to view was carried out in 34 patients for correction of mitral insufficiency or combined mitral insufficiency and mitral stenosis. Circulation and oxygenation were maintained with a heart-lung machine during the operative period.

The various valve deformities observed were of five types.

1. Stenosis of the anterolateral commissure and insufficiency at the posteromedial commissure.

2. Stenosis of both the anterolateral and posteromedial commissure with insufficiency in the center of the valve.

3. Insufficiency due to gross annular dilatation without any evidence of stenosis.

4. Gross annular dilatation secondary to ruptured chordae tendineae.

5. Damage by tearing or cutting of the mitral leaflets in previous attempt at mitral commissurotomy by a closed technique.

In all five types if stenosis was present the involved commissures were opened and the mitral insufficiency was corrected by suturing the mural annulus at the posteromedial commissure. If the chordae tendineae was found to be torn, due to rheumatic fever or a previous closed operation, the involved portion of the valve was sutured to the closer papillary muscle. After repair of the torn chordae tendineae, it was usually necessary to narrow the posteromedial annulus. For a patient with mitral insufficiency following mitral commissurotomy by a closed technique, commissurotomy was performed at the proper area and the previously made incision in the mitral valve was repaired. If there was also insufficiency of the posteromedial commissure, it was corrected.

Five of the 34 patients died. One of the five, the first to be operated upon in the present series, died

• Thirty-four patients having among them cardiac valve deformities of five different types were operated upon with the heart opened to expose the surgical field to direct vision.

Five of them died, including three of the first six. Of 29 surviving patients, 26 were greatly improved and leading a normal life. The other three were slightly to moderately improved.

due to a technical mishap at the time of operation. The remaining four were all severely ill, in chronic failure, having grade VI cardiac enlargement (grading from I to VI) and hepatosplenomegaly with the liver pulsating. They also had decided tricuspid insufficiency, secondary to the mitral valve disease. Of the 29 surviving patients, all but three were greatly improved and at last report were living a normal life with either no murmur or at most a grade I or II apical systolic murmur (grading from I to VI). Results of operation were appraised after intervals of from one to two and one-half years after the operation. The remaining three were slightly to moderately improved but still had grade III to IV systolic murmurs. In these three patients there was a moderate amount of calcium present in the mitral valves and it was not possible to accomplish as much surgically as was desired. These three probably should have had replacement with an artificial valve. However, they are the only ones in this group in whom it was felt that artificial valve replacement would have been advantageous.

The following two cases are representative of the 34 patients.

CASE 1. A 31-year-old white woman was admitted to Saint Vincent's Hospital with chief complaint of pronounced fatigue and exertional dyspnea. She had had rheumatic fever at 19 years and again at 22 years of age. A month before admission the patient noted pronounced dyspnea on moderate exercise. This became more severe and was associated with a nonproductive cough. There was no history of ankle edema or hemoptysis. Four years previously, after the patient had borne her first child, congestive heart failure developed, necessitating

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Aided by a grant from the United States Public Health Service. Submitted April 21, 1961.



Figure 1 (Case 1).—*Left:* Cardiac enlargement before operation. *Right:* Pronounced improvement 14 months later.

hospital care. At the time of the present admission she was taking digitalis.

The patient was 65 inches tall and weighed 102 pounds. Body temperature was within normal range. The pulse rate was regular at 72 a minute. The neck was supple and the veins of the neck were not distended. No rales were present in the chest. Upon examination of the heart, the point of maximal impulse was noted to be in the left sixth intercostal space at the anterior axillary line. There was a pronounced left apical thrust and a grade IV systolic thrill palpable at the apex. The first and second sounds were present at the base but absent at the apex. There was a grade IV to V systolic murmur and a grade III diastolic murmur at the apex, radiating to the lower left sternal border. The liver was palpable one to two fingerbreadths below the costal margin and was slightly tender. Peripheral pulses were of good quality. There was no edema or cyanosis.

Hemoglobin content was 12.7 grams per 100 cc. of blood. The number and the differential of leukocytes were within normal range. Results of urinalysis showed no abnormality. Blood urea nitrogen was 13 mg. per 100 cc. Chlorides were 94.4 mEq., serum potassium 5.4 mEq. and serum sodium 134 mEq. per liter. An electrocardiogram showed atrial fibrillation at a rate varying from 70 to 90 per minute, also digitalis effect and probably left ventricular enlargement. In an x-ray film, the hilar

and peripheral lung vessels appeared essentially normal and there was no evidence of pulmonary disease. The films showed the cardiac diameter to be enlarged and the heart size Grade III on a scale from I to VI. The left atrium and the right ventricle were enlarged. These changes were consistent with mitral valve disease, most likely combined stenosis and insufficiency.

Left heart catheterization was performed by simultaneously measuring the left ventricular and femoral artery pressures. The left atrial pressure was 45/20. The left ventricular pressure was from 120 to 160/75 and the femoral artery pressure was 140/70 mm. of mercury. The left atrial pressure curve consisted of a high-rising V wave followed by a fairly rapid fall-off. The diastolic gradient across the mitral valve varied between 2 mm. and 10 mm. of mercury.

These findings were consistent with predominant mitral insufficiency associated with a minimal mitral stenosis. There was no evidence of aortic stenosis.

At operation, using the heart-lung machine for cardiopulmonary by-pass, the heart was exposed by opening the chest at the fifth intercostal space. A grade III enlargement and moderate distention of the left atrium was noted. The femoral vessels and the superior and inferior vena cavae were cannulated and extracorporeal circulation was begun. A vent was placed near the apex of the left ventricle. The left atrium was opened on the right side pos-

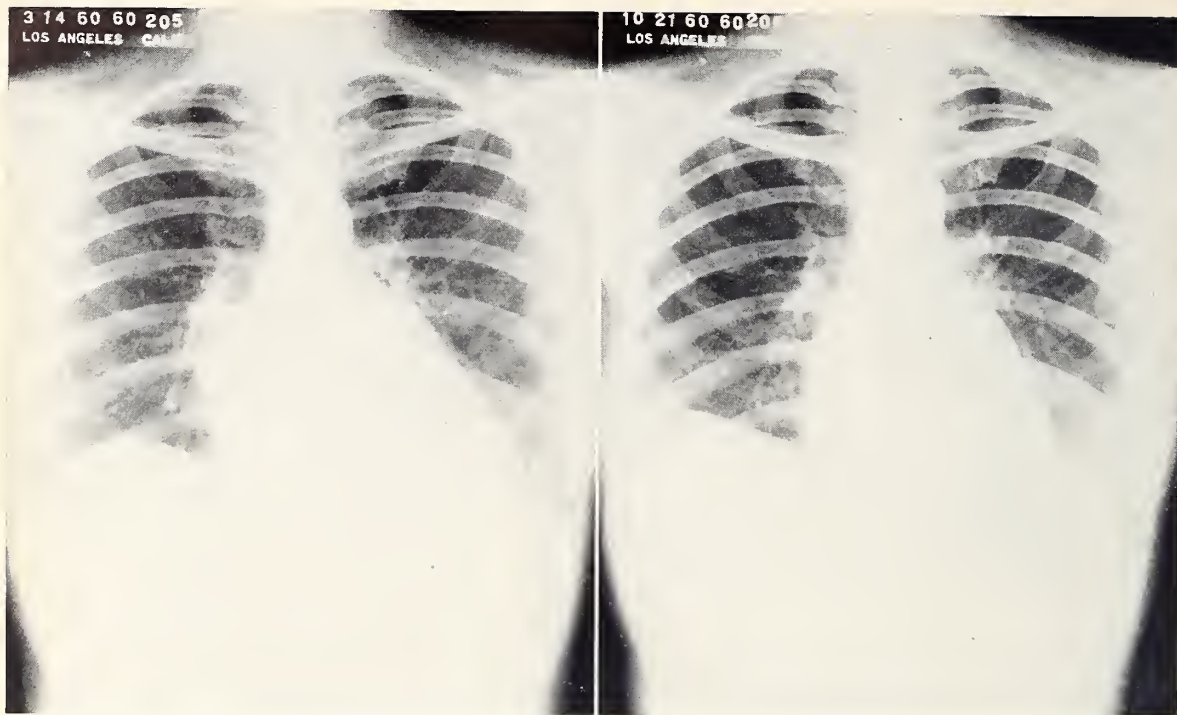


Figure 2 (Case 2).—*Left:* Cardiac enlargement before operation. *Right:* Film taken some seven months after operation, showing good result.

terior to the interatrial groove. Pronounced mitral insufficiency was noted. The mitral valve orifice was 4 cm. in diameter. Found to be fused, the anterolateral commissure was opened with a knife for a distance of 1 cm. Two No. 2 silk figure-of-eight sutures were placed at the posteromedial commissure, mainly shortening the annulus of the mural leaflet. At the end of the procedure the mitral orifice was 2.5 cm. in diameter. There was no evidence of mitral regurgitation or stenosis as noted under direct vision with the heart beating. The valve was soft and pliable.

During the procedure there was a moderate degree of aortic regurgitation, making it necessary to clamp the aorta three times, each time for three minutes, with two-minute intervals between occlusions. Shortly after the aorta was clamped for the third time, ventricular fibrillation developed. This responded to a single shock of 220 volts for one-tenth of a second soon after release of the clamp.

The postoperative course was quite satisfactory and the patient was discharged from the hospital on the 18th day after operation. There was decided diminution in heart size (Figure 1). The patient returned to work and felt normal in all respects. She continued to feel well two and a half years after operation and had a grade I apical systolic murmur.

CASE 2. A 37-year-old white woman was admitted to Saint Vincent's in August, 1960. At age 6 she

had rheumatic fever and was sick for a year. A "heart murmur" had been noted by a physician at that time. She apparently did fairly well thereafter. She had borne four babies, all at term, the first three having been delivered without complication. A few days after delivery of the fourth child, congestive heart failure developed, characterized by extreme shortness of breath, even at rest, and a non-productive cough. There was edema at the ankles.

Broad spectrum antibiotics, diuretics and digitalis were administered. The patient continued to take digitalis for six months and then discontinued spontaneously.

The chief complaint at the time of admission to hospital was easy fatigability, but she was still able to do most of her work at home.

The patient was 66½ inches tall and weighed 152 pounds. The neck veins were flat. No abnormality was noted on auscultation of the lungs. The heart rate was 72 and regular. Blood pressure was 118/70 mm. of mercury. The apex of the heart was at the sixth intercostal space 1 cm. lateral to the midclavicular line. The apical thrust was forceful. There was a grade III apical systolic murmur radiating to the axilla and a grade I apical diastolic murmur. An opening snap was heard. The second pulmonary sound was slightly attenuated. No thrills or taps were palpable.

The abdomen was flat and soft and the liver was not enlarged. The extremities were of good color

and the peripheral pulses of good quality. There was no edema or cyanosis. No abnormalities were noted on examination of the blood and urine. X-ray films of the chest showed a grade III cardiac enlargement (scale of I to VI). There was moderate enlargement of the left ventricle and the left atrium with very little if any right heart enlargement. Pulmonary vessels were normal and there was no evidence of pulmonary congestion.

Left heart catheterization was performed, using the transbronchial approach. Elevated left atrial pressure was noted. There was no evidence of aortic valve disease. An electrocardiogram was consistent with left atrial enlargement but was otherwise within normal limits.

The heart was exposed through a median sternotomy incision. Cardiopulmonary by-pass was carried out and the left atrium was opened posterior to the right atrium. Upon inspection, pronounced mitral insufficiency was noted. The annulus was di-

lated and the mitral orifice easily admitted three fingers. The edge of the aortic leaflet of the mitral valve was raised because the chordae tendineae of this portion of the valve were stretched. With interrupted figure-of-eight sutures of No. 2-0 silk, the main chordae tendineae of the aortic leaflet to the anterolateral papillary muscle and to the posteromedial papillary muscle were shortened. Three interrupted figure-of-eight sutures of No. 2 silk were placed in the annulus from the apex of the annulus at the posteromedial commissure to the medial one-fourth of the annulus of the mural leaflet. These sutures were tied, shortening the circumference of the mural leaflet and almost completely relieving the insufficiency. (See Figure 2.) The postoperative course was satisfactory and the patient was dismissed from the hospital on the fourteenth postoperative day. When last observed, a year after operation, she felt entirely well and was leading a normal life. There was only a grade I apical systolic murmur present.

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Transitional Cell Cancer of the Anus and Rectum

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RECENTLY there has been increasing clinical awareness that uncommon but distinctive and highly malignant transitional cell epidermoid tumors can arise from the anorectal junction.* The transitional junctional lesions show histologic patterns that cannot be catalogued as true keratinizing squamous cell epidermoid cancer, as adenocarcinoma or as the very rare basal cell anal tumor.

These atypical lesions originate at the anorectal region from a narrow inconstant circular membranous zone, a sometimes persistent embryologic cloacal remnant which in adults is about a centimeter or less in width. This unstable narrow intervening transitional zone above the dentate line separates the entodermal rectal columnar mucosa from the ectodermal anal squamous cell lining. The anal crypts, ducts and glands which are present in this region can also be involved in tumor formations. The transitional or stratified columnar type of epithelium that lines this circular zone closely resembles that of the cloacogenic bladder mucosa and the posterior urethra, all having had a common embryologic origin from the primitive entodermal cloaca.† The cloacogenic membranous mucosal anorectal zone and its accessory structures can readily be demonstrated in a fetus or in an infant at term, but the region is rather inconstant and much less conspicuous in adults.‡

The variety of descriptive terms used by different investigators for transitional cell lesions of the cloacal area has led to confusion with regard to such tumors. The epithets *cloacogenic transitional cancer*,^{3,10} *basaloid small cell cancer*,¹⁷ *basaloid cancer*,^{2,17} *basosquamous cancer*,¹¹ *cylindroma*,⁵ and others, have all been used to catalogue apparently closely related lesions.§ A pathologist may also code cancers of this order as undifferentiated or anaplastic squamous cell tumors, failing to recognize the true embryologic implications of the anorectal region.

• A study was made of all cases of transitional cell cancer of the anus or rectum in the records of the University of California Medical Center, San Francisco. None was listed until 1945, then an additional seven between 1954 and 1960. During the latter period there were 192 cases of adenocarcinoma of the rectum, six cases of squamous cell or epidermoid rectal cancer and 12 cases of squamous cell cancer of the anus.

Distinctive and highly malignant anal and rectal epithelial tumors will occasionally arise at or near the anorectal junction from inconstant embryologic entodermal cloacal vestiges. These atypical nonkeratinizing lesions are very similar microscopically to transitional cell tumors found in the cloacogenic portions of the lower genitourinary tract.

Review of the literature indicates that the prognosis of cloacogenic anal and rectal lesions appears to be relatively graver than that for the more common adenocarcinomas and keratinizing squamous cell epitheliomas. Early diagnosis and prompt, radical excision seem to offer the only hope for survival.

CLINICAL-PATHOLOGICAL FEATURES

The transitional tumors that have been described as arising from the complex cloacogenic anorectal zone may involve the upper portion of the anal canal, the adjacent portion of the rectum or both. Transitional epidermoid lesions are also found in the lower part of the rectum without any apparent gross connection to the anorectal region. Submucosal cephalad extensions of the anal ducts and glands can be held accountable for such lesions.*

Clinically, the cloacogenic lesions are symptomatically and grossly indistinguishable from the commoner adenocarcinoma and keratinizing squamous cell cancers found at the anorectal region. However, several distinctive clinical observations have been noted with regard to transitional cell cancers at the anorectum. There is usually sudden onset of clinical symptoms and rapid progression of transitional growth, making the prognosis much poorer than for adenocarcinomas and keratinizing squamous cell cancers at the same site. The microscopic similarity between transitional cell tumors of the anorectum and their analogues in the bladder and posterior urethra is a very striking feature (Figure 1). The presence of nests of transitional epidermoid cells with a low degree of keratinization and an absence

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Presented before the Section on General Surgery at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

*References Nos. 3, 6, 10, 11, 17.

†References Nos. 3, 10, 16, 17.

‡References Nos. 3, 4, 10, 14, 16.

§References Nos. 6, 7, 12, 13, 15.

*References Nos. 3, 6, 8, 9, 10, 15, 18.

of epithelial pearl formation are outstanding diagnostic histologic signs (Figures 2, 5, 7). There is often conspicuous peripheral palisading of nuclei surrounding transitional cell masses (Figures 3, 7). Areas of central necrosis can be present in the cell nests (Figures 3, 6).

Transitional cell lesions of the anorectum appear to be more lethal than similar growths in the bladder. Early diagnosis is mandatory for survival and prompt radical excision is the treatment of choice for anorectal cloacogenic lesions.^{10,12} Irradiation is impractical as a first choice of treatment because the normal tissues in the region are decidedly sensitive and might be injured by the dosage required for control of the transitional cell lesions.

DISCUSSION

In 1880, Hermann and Defosses⁴ first described the close relationship of the embryonic cloaca and its persistent developmental remnants at the anorectal junction to pathologic conditions occurring at the same site. Tucker and Hellwig¹⁶ in 1935 and Tench¹⁴ in 1936 added to the embryologic and anatomic knowledge of the anorectal zone. However, these fine investigative efforts were apparently overlooked and, until recently, had little impact on the study of transitional tumors.

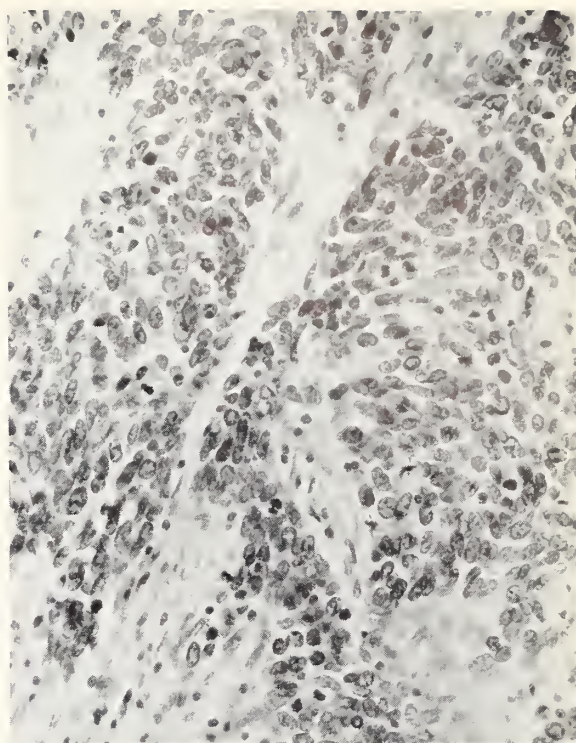


Figure 2 (Case 2, Table 1).—Infiltrating nests and strands of fairly uniform transitional cells surrounded by connective tissue stroma (hematoxylin and eosin stained, $\times 350$).

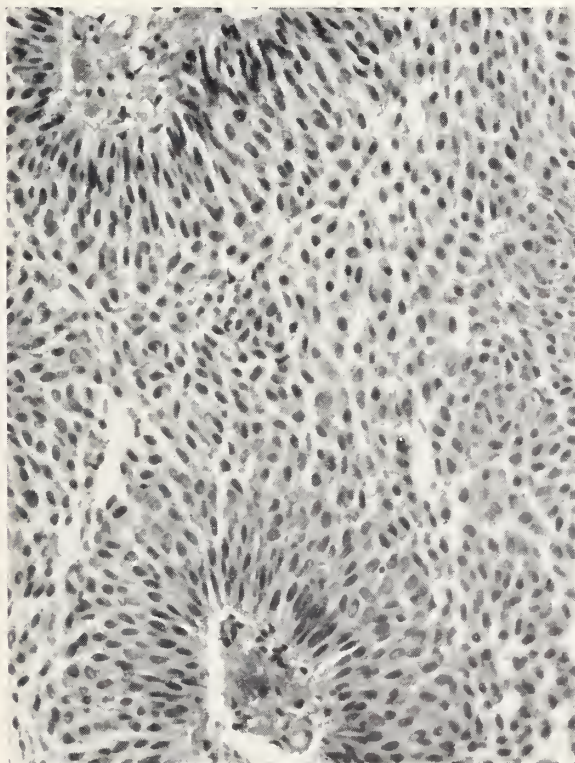


Figure 1.—Papillary transitional cell cancer of the bladder (hematoxylin and eosin stained, $\times 300$).

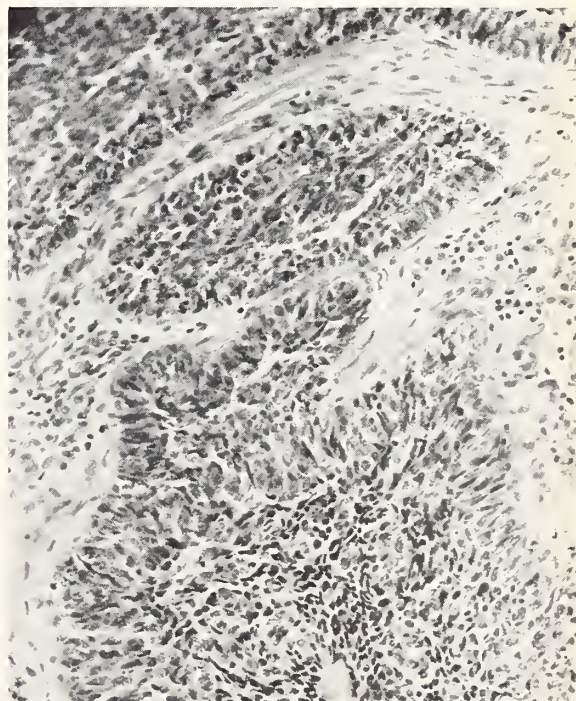


Figure 3 (Case 3, Table 1).—Submucosal nests of pleomorphic transitional cells with central necrosis and a peripheral zone of palisading cells. "Oat-shaped" and spindly cells are present (hematoxylin and eosin stained, $\times 250$).

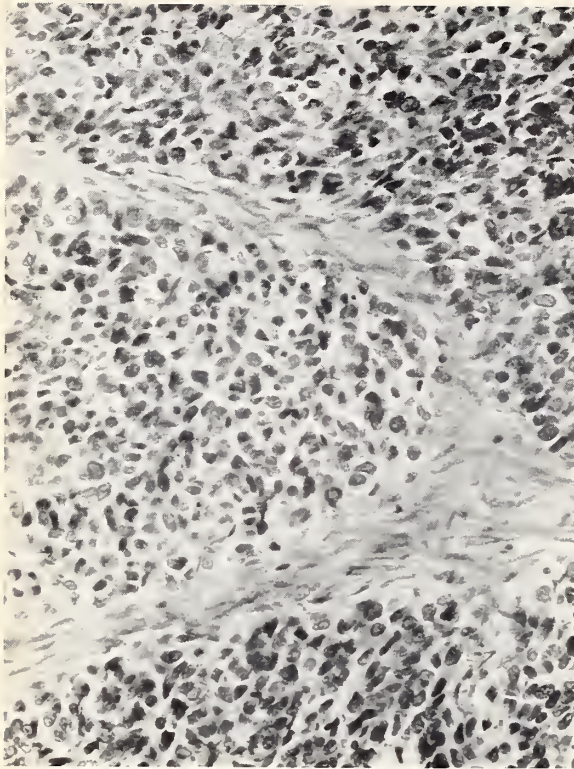


Figure 4 (Case 5, Table 1).—Submucosal infiltrating sheets of transitional cells showing slight pleomorphism. Palisading is not pronounced. Keratinization and epithelial pearls are absent (hematoxylin and eosin stained, $\times 350$).

Grinvalsky and Helwig³ in 1956 made detailed anatomic and histologic studies of the cloacogenic anorectal zone and of its close correlation with the unusual transitional cell malignant lesions arising there. They proposed the term *transitional cloacogenic carcinoma* to designate the atypical anorectal tumors originating from persisting embryologic cloacal vestiges above the dentate line. The varied histologic patterns of anorectal tumors were explained by the presence of a mixed epithelium and by the different possible primary sites of origin—that is, the mucosal transitional lining, the anal duct epithelium or the accessory glands. They also suggested that rectal epidermoid carcinomas, which appear to be independent of the anorectal junction, could arise from anal ducts that follow a cephalad submucosal rectal course.

During the past five years, a few interesting and provocative communications have appeared describing anorectal lesions with the transitional cell characteristics suggested by Grinvalsky and Helwig. However, the variety of descriptive terms applied by various investigators to apparently closely related lesions has brought considerable confusion. Grinnell² in 1954 analyzed 49 cases of anal squamous cell cancers and found 16 with “basal cell” charac-

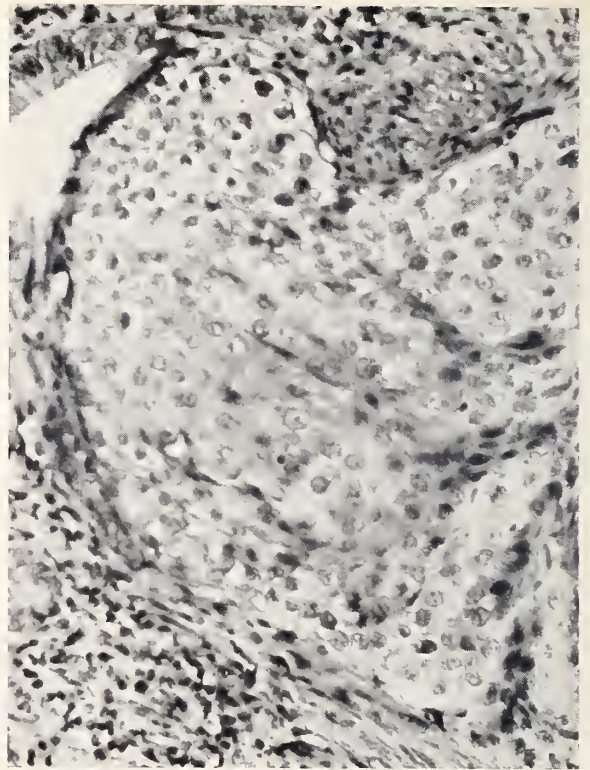


Figure 5 (Case 7, Table 1).—Biopsy specimen of rectal tumor showing an island of well-differentiated transitional cancer (hematoxylin and eosin stained, $\times 350$).

teristics. In three of the 16, metastatic lymph node involvement developed. Wittoesch, Woolner and Jackman¹⁷ in 1957 reported on 28 patients with supposed basal cell anal lesions. Seven of these patients, who had anal canal tumors adjacent to the anorectal line, were reclassified as having “basaloid small cell” cancer, the term being used to distinguish the lesions from the rarer and relatively benign basal cell epitheliomas arising from the distal anal margin. The “small cell basaloid” cancers had a short symptomatic clinical course and a decided tendency to rapid metastatic spread.^{1,10} Schilla¹¹ in 1959, in discussing basal cell anal lesions, mentioned three patients with lesions having “basosquamous” characteristics and metastatic involvements. Other observers have employed different descriptive labels for similar anal and rectal lesions that appear to be of closely related cloacogenic origin.^{6,15,18} Some of the tumors have also been listed as undifferentiated or anaplastic squamous cell cancers.

A comprehensive review by Schechterman, published in 1960, brought the subject of cloacogenic anorectal tumors up to date.¹⁰ He separated the anorectal transitional cancers into two basic pathologic patterns—the more common nonkeratinizing transi-

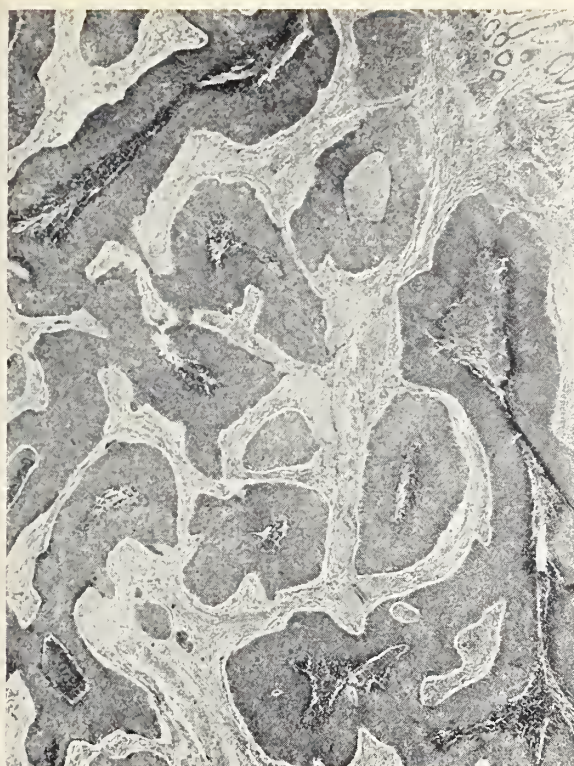


Figure 6 (Case 8, Table 1).—Circumscribed variegated submucosal nests of transitional cells encapsulated by fibrous stroma. There is central necrosis in the tumor cell masses (hematoxylin and eosin stained, $\times 35$).

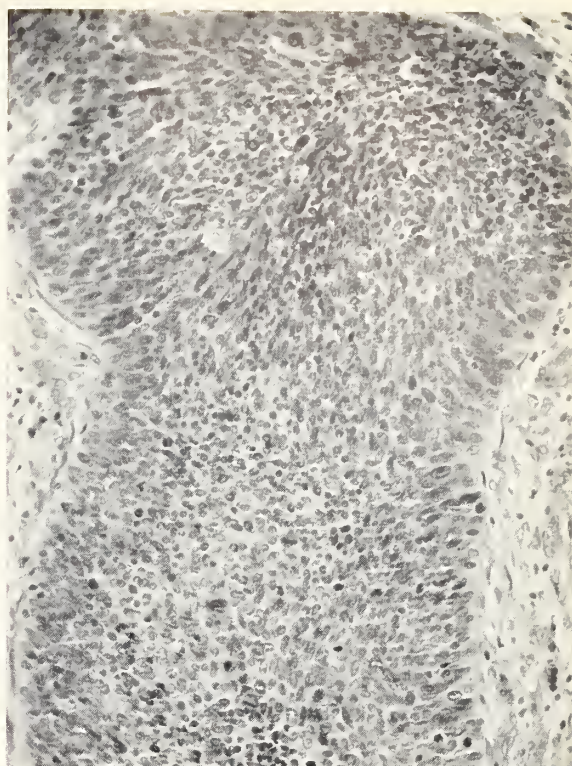


Figure 7 (Case 8, Table 1).—A circumscribed mass of fairly uniform transitional cells with a peripheral zone of palisading tumor cells. No keratinization or epithelial pearl formations. There are multiple mitoses (hematoxylin and eosin stained, $\times 250$).

TABLE 1.—*Transitional-Cell Cancer of the Anus and Rectum (University of California Medical Center, 1919-1960).*

Case No. Year	Age (Years)	Sex	Symptoms	Gross Lesion	Treatment	Course
1. 1945	79	F	Anorectal bleeding increasing, 2+ years	Protruding cauliflower anal mass, 3 x 4 cm., involving anus and distal rectum	Refused	Died, terminal cancer, 4 months after diagnosis
2. 1954	51	F	Diarrhea, anorectal bleeding, narrowed stool, 6 months	Proliferating, ulcerating tumor, 5 x 7 cm., involving anus and rectum	Abdominoperineal resection followed by bilateral inguinal lymph node dissections	No recurrence, 6 years
3. 1954	68	F	Bloody-mucoid anorectal discharge, 6 months	Proliferating, ulcerating anterior anorectal tumor, 2 x 3 cm.	Abdominoperineal resection followed by irradiation of rectovaginal septum	No recurrence, 6 years
4. 1954	71	F	Increasing constipation, abdominal distention, bleeding, 6 months	Fungating ulcerating mass surrounding anus	Abdominoperineal resection	No recurrence, 6 years
5. 1955	71	F	Change in bowel habits; anorectal bleeding, pain, 7 months	Two separate nodular, ulcerating masses, distal rectum	Abdominoperineal resection	Died, metastatic cancer, 18 months after operation
6. 1956	47	F	Anorectal bleeding, discomfort, 2 months	Two separate firm polypoid tumors, distal rectum	Abdominoperineal resection	No recurrence, 4 years
7. 1959	58	M	Anorectal bleeding; feces, gas, blood via penis, 4 months	Fungating mass anterior rectal wall; rectovesical fistula	Exploratory laparotomy and colostomy. (Transurethral resection, orchiectomy, irradiation 1 year previously)	Died, metastatic cancer
8. 1960	63	F	Anorectal bleeding, discomfort, discharge 1 month	Indurated smooth mass involving entire posterior rectal wall	Abdominoperineal resection	Died, generalized metastases, 7 months after operation

tional cell tumors arising from the membranous anorectal mucosal zone, and the rarer and even more lethal pleomorphic small cell transitional tumor developing from the anal duct epithelium. Reporting on nine cases, Schechterman was impressed by the rapid onset of clinical symptoms and a quick progression of most of the tumors to widespread metastasis. Seven of the nine patients were females. Early diagnosis of the cloacogenic anorectal lesion and prompt radical surgical excision were looked upon as keys to the only hope for survival.

PRESENT STUDY

In all the records of the University of California Medical Center concerning all malignant lesions of the rectum and anus for the period 1919 to 1960, no case of transitional cell cancer of the anus or rectum was listed until 1945. Then, during the period 1954 to 1960 seven additional cases were coded as transitional cell tumors (Table 1). Four involved the distal portion of the rectum, two both the anal canal and adjacent rectum, and one solely the anal canal. During the same seven-year interval, there were 192 cases of adenocarcinoma of the rectum, six cases of squamous cell or epidermoid rectal cancer and 12 cases of keratinizing squamous cell cancer of the anus. In addition, nine cases were catalogued as undifferentiated carcinoma of the rectum (Table 2). No true case of an anal basal cell lesion was recorded during this period. It would seem that the cloacogenic anorectal lesions make up a relatively small proportion of all the anal and rectal tumors. Future studies and more experience with these tumors might reveal that some lesions now being catalogued as anaplastic or undifferentiated epidermoid cancers might actually be of cloacogenic transitional cell origin.

No firm conclusions can be drawn from the meager series of cases in the present study or from the comparatively few cloacogenic anorectal lesions mentioned in the recent literature. However, certain pertinent and striking observations can be made. Only one of the eight patients (Table 1) was a man, and he had had previous treatment for a prostatic cancer. The duration of anorectal symptoms for the entire group was brief, averaging less than six months. With radical excision following prompt diagnosis the salvage rate was 50 per cent, three patients having no recurrence in six years and one in four years of observation (Table 1).

There were no typical clinical symptoms or distinctive gross features of the lesions to aid in separating the transitional cloacogenic tumors from the more usual anal or rectal cancers. The most frequent histologic patterns in the series resembled the transitional cell features observed in tumors arising

TABLE 2.—Cases of Carcinoma of Rectum and Anus (University of California Medical Center, 1954-1960).

	Rectum	Anus
Adenocarcinoma	192	0
Squamous cell	6	12
Transitional cell	6*	1
Basal cell	0	0
Undifferentiated	9	0

*Two patients had involvement of both the rectum and anus.

from the transitional cloacogenic portion of the lower genitourinary tract (Figures 1, 2, 5, 7). There was little of the keratinization or epithelial pearl formations that are invariably seen in the commoner epidermoid anorectal lesions (Figures 2 to 7). Further combined clinical and pathologic investigations will be necessary for a more complete understanding of these somewhat complex, atypical and comparatively rare cloacogenic anal and rectal tumors.

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CASE REPORTS

Pseudo-Raynaud's: Cryoglobulinemia Secondary to Occult Neoplasm

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ALTHOUGH cryoglobulinemia does not cause Raynaud's phenomenon, it so regularly produces acral cyanosis and acral pain that a "Raynaud's" label may be applied by the unwary. Clinical features alone should suggest the correct diagnosis, and the pathognomonic test for cryoglobulinemia is a simple laboratory procedure. The test is so rarely used, however, as to suggest that a diagnosis of cryoglobulinemia may be missed simply because it is seldom considered in the differential diagnosis of peripheral vascular disorders. The following case illustrates this pitfall and several others.

REPORT OF A CASE

A 56-year-old woman was first seen in August, 1960, with complaint of "Raynaud's disease." She had been under treatment elsewhere for eight months with vasodilator agents and narcotics for pain in the arms and hands with ulcers on the fingers. Failure of therapy had been attributed to the patient's heavy smoking.

The illness had begun four years earlier when she had first noted that exposure to cool temperatures resulted in leg pain. She had worn woolen socks to bed but, even so, had often been awakened by pain and coldness in the legs. A cutaneous ulcer over the left lateral malleolus had appeared in 1956 and had persisted 18 months until she had had operative treatment for varicose veins.

In February 1960 cyanosis and pain had appeared in the right hand. A diagnosis of Raynaud's disease had been made even though the classic Raynaud triphasic sequence of color changes from pallor to cyanosis to rubor had not occurred. In March the right thumb, index and long fingers had suddenly "turned black, with blood oozing out around the fingernails." Treatment in hospital for nine days had provided little relief. Dry gangrene had involved a

portion of the right index finger and thumb, leading to slough from the distal soft tissue pad of these digits. The process had gradually subsided, with complete healing in about three months.

Two months later a similar process had involved the left hand, incessant pain having prompted admission of the patient to our hospital.

Family history included asthma (a sister), diabetes mellitus (two sisters and an uncle), psychosis (mother), leprosy and suicide (father). The patient herself had had four "nervous breakdowns," chorea in childhood, influenza in 1918, resection of a tuberculosis enteric fistula in 1921, hemorrhoidectomy three times, and tubal rupture from ectopic pregnancy. She had smoked 40 cigarettes daily for 40 years, and had recently become dependent on a narcotic (dihydrocodeinone).

Upon physical examination a 2 cm. black, crusted area of gangrene was observed on the distal third of the left index finger. The patient cradled this hand in the other and sat in bed, rocking back and forth, moaning with pain. Dependency of the hand intensified the pain. Blood pressure and other vital signs were within normal limits. Peripheral arterial pulsations were palpable in all extremities and there was no evidence of arthropathy, dermatitis or muscular atrophy. A round, smooth, movable mass approximately 10 cm. in diameter was palpable to the left of the umbilicus and was ballotable through the left costovertebral angle. The examiner's fingers could be easily inserted between the mass and the left costal margin.

Laboratory studies revealed mild anemia, accelerated sedimentation rate and cryoglobulin content totaling 476 mg. per 100 ml. of plasma. Serum albumin was 4.4 gm. per 100 ml. and the total globulin (determined at 37° C. before precipitation of the cryoglobulin) was 2.5 gm. per 100 ml. Results of urinalysis, of determinations of serum cholesterol, nonprotein nitrogen and protein-bound iodine and an electrocardiogram and a Papanicolaou examination of material from the cervix were all within normal limits.

Contrast radiographic studies outlined the left flank mass as extrinsic to the enteric canal and probably arising from the lower pole of the left kidney. X-ray films of the chest showed a second mass, 4 cm. in diameter, in the lower lobe of the right lung.

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Presented before the Section on Internal Medicine at the 90th Annual Session of the California Medical Association, Los Angeles, April 30 to May 3, 1961.

Planigrams supported the probability of neoplasm, since the pulmonary lesion did not contain calcium or a cavity.

To account for all the findings, the initial diagnosis was hypernephroma with "snowball" metastasis to the lung, and cryoglobulinemia secondary to the neoplasm.

In the light of sporadic reports of significant remission following removal of a hypernephroma and a solitary metastatic pulmonary lesion, exploratory laparotomy was carried out August 24, 1960. The abdominal mass was a greatly enlarged spleen which was unusually ptotic.

The patient obdurately resumed smoking as soon as possible after the operation, and wound dehiscence occurred in a fit of violent coughing.

Thirty days after the laparotomy, thoracotomy was done and a 4 cm. adenocarcinoma (Grade 2) was removed. The pathologist could find no metastatic lesions in the peribronchial or mediastinal lymph nodes. Venous invasion, however, was present. Following removal of the pulmonary tumor, the symptoms related to cryoglobulinemia diminished promptly. Digital pain and cyanosis cleared within one week, and the gangrenous crusts on the fingertips sloughed cleanly within a month. Decline in serum concentration of cryoglobulin was somewhat slower. Quantitative tests for cryoglobulin showed the presence of 300 mg. per 100 ml. of serum two months after removal and 130 mg. three months after removal of the pulmonary carcinoma.

Three weeks after thoracotomy the patient returned to hospital with complaint of pain in the right infrascapular area. Radiographic studies of the spine showed no lucent areas to indicate metastasis. Bone marrow could not be aspirated despite 6 sternal and iliac punctures which were thought to enter the marrow space. Failure to obtain marrow, together with mild anemia (hemoglobin 10.6 gm.) and splenomegaly, suggested the possibility of myelofibrosis. This suspicion was strengthened when blood specimens stained for alkaline phosphatase showed that 55 per cent of the patient's leukocytes were positive as compared with 8 per cent for the normal control. Biopsy of bone from the right iliac crest October 24, 1960, confirmed this diagnosis. The marrow was hypercellular with areas of myeloid and megakaryocytic hyperplasia. Many of the megakaryocytes had bizarre nuclear configuration. Early fibrosis was present in other areas. No metastatic lung tumor cells were present.

DISCUSSION

Cryoglobulin is an abnormal serum protein which precipitates or gels on cooling. Small quantities of cryoglobulin have been found in the serum of patients with many dissimilar diseases,⁶ including subacute bacterial endocarditis, hepatic cirrhosis, blood dyscrasias and the collagen diseases, but clin-

ically significant amounts of cryoglobulin occur chiefly in three conditions: multiple myeloma, macroglobulinemia, and "essential" cryoglobulinemia.

In the test tube the serum from a cryoglobulinemic patient will show a flocculent white precipitate or opaque gelification when the temperature is reduced to 5° C. The rapidity of the solidification is proportional to the concentration of cryoglobulin. Precipitation occurs immediately on chilling and may occur before the serum reaches room temperature. Repeated cooling and warming of cryoglobulinemic serum results in the eventual loss of the property of cold precipitation, and heating the serum to 56° C. destroys cold precipitability. The physical properties of cryoglobulins, such as electrophoretic mobility and molecular weights, vary decidedly from one patient to another, just as myeloma globulins do.

Solidification of cryoglobulin may occur within blood vessels when the patient is exposed to cold or even at room temperature. Early symptoms include urticaria, purpura or pain in an extremity after chilling. Although the cold precipitation of cryoglobulin is usually reversible with warming, in an occasional patient the process may fail to reverse, and permanent vascular occlusion with tissue infarction results. This usually involves only superficial vessels, with necrosis of small areas of skin (so-called "purpura hyperglobulinemica") or gangrene of digits. Rarely, cryoglobulinemic occlusion of visceral vessels occurs.

Deserving special emphasis is the fact that the vasomotor phenomena seen in patients with cryoglobulinemia do not include Raynaud's phenomenon. Instead of the typical Raynaud color sequence of white to blue to red, the digits will show a monophasic blue mottling which may come and go for weeks or years before gangrene and ulceration occur. Similar changes may appear on the nose and ears, which seldom, if ever, are involved in Raynaud's phenomenon.

The simplest qualitative test for cryoglobulin is daily inspection of a test tube of the patient's blood stored at 4° C. (icebox temperature). A white precipitate or gel will be found overlying the sedimented red cells.

Quantitative measurements of cryoglobulin adequate for clinical use are well within the capacity of the average laboratory. The method of choice,³ briefly, consists of determining the albumin-globulin ratio twice. One specimen of blood is centrifuged at 37° C. and the second is centrifuged after chilling to 2° C. In the second procedure the cold-precipitable protein is spun down and removed before the plasma is subjected to partition of albumin and globulin. The difference between the globulin values for the "warm" serum and the "cold" serum represents the cryoglobulin concentration. In patients with symptoms attributable to cryoglobulin, the concentration of this protein may range from 30 mg. to 10 gm. per 100 ml.^{3, 4}

In essential cryoglobulinemia, therapy is generally unsatisfactory, although the number of reported cases remains too small for accurate evaluation of any specific treatment. In 1957 Domz and Feigin reported a case of essential cryoglobulinemia in which leg ulcers healed promptly following anticoagulant therapy with bishydroxycoumarin (Dicumarol®). The remission has lasted to the present time. Report of a similar experience did not appear until very recently, when Foley, Karlen and Watson⁴ described healing of cryoglobulinemic ulcers in a patient with Sjogren's syndrome. They noted that warfarin (Coumadin®) and heparin worked as well as or better than bishydroxycoumarin. Rationale for anticoagulant therapy in these patients rests on the observation⁵ that cryoglobulins are among the abnormal globulins which have an ability to combine with and precipitate prothrombin and accessory clotting factors from the blood plasma. This results in localized thrombosis which is permanent and produces infarction, as contrasted to the transient reversible gelling of cryoglobulin per se.

Secondary cryoglobulinemia may disappear after treatment of the underlying disease. Antibiotics in subacute bacterial endocarditis,⁶ radiation and chemotherapy for lymphatic leukemia, lymphosarcoma and reticuloendotheliosis,³ and steroids for the collagen diseases, can be expected to produce remissions. The encouraging responsiveness of secondary cryoglobulinemia is marred by the fact that the most frequent cause of this protein disorder, multiple myeloma, is notoriously resistant to all forms of therapy. Bohrod¹ reported disappearance of cryoglobulinemia secondary to a breast carcinoma after surgical removal of the tumor. The striking clinical improvement and sharp diminution in amount of circulating cryoglobulin in the patient in the present case following removal of the lung cancer suggests a similar causally related sequence. It will be of considerable interest to determine whether cryoglobulinemia and the symptoms associated with it will increase in severity if metastasis from the lung carcinoma occurs. Metastasis seems probable in the light of the known pathogenetic import of venous invasion in lung cancer.⁷

The relationship of the myeloid metaplasia in this case to the rest of the clinical manifestations remains in doubt. While cryoglobulinemia is often secondary to disorders (usually neoplastic) of lymphocytic, plasmacytic and erythrocytic cells, it has never been described in association with disorders of granulocytes or megakaryocytes.

SUMMARY

A patient with superficial gangrene involving several fingers was treated unsuccessfully for Raynaud's syndrome until cryoglobulinemia secondary to pulmonary carcinoma was discovered. Removal of the tumor resulted in rapid improvement in the peripheral vascular disease and a gradual decline in the cryoglobulinemia.

A subsequent finding in this patient, myeloid metaplasia of the bone marrow, was not considered to be related to cryoglobulinemia.

Clinical features, diagnostic laboratory tests, and treatment of cryoglobulinemia are reviewed.

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Congenital Glioma on the Left Side of the Face

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WHILE central nervous system tissues are a common component of teratomas found in various locations, lesions commonly called tumors and composed entirely of elements of the brain occur only rarely outside of the cranial cavity, and are then usually limited to the root of the nose, the pharynx and the orbit.^{6,10} Black and Smith reviewed 34 cases in 1950,¹ and many additional cases have been reported since that time.*

The first description of a nasal glioma was provided by Schmidt⁹ in 1900. He postulated that the tumor was originally an encephalocele which, during the later embryonal development, had been cut off from the brain by closure of the embryonic sutures of the skull. This hypothesis is supported by the fact that a few of the tumors are still attached to the brain when removed or are transitional forms from encephaloceles to nasal gliomas; that the lesions occur almost invariably along the midline convexity of the skull, and that the great majority of the tumors are found in infants and are congenital.^{1,7,10} With some modifications, this view is accepted by most observers† and there is also general

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*References Nos. 2, 4, 5, 6, 8.

†References Nos. 1, 4, 5, 6, 10.

agreement that the tumors are benign and not truly neoplastic, representing heterotopic central nervous system tissue.²

Most of the tumors described in the literature consisted of mature astrocytes with an occasional admixture of ganglion and ependymal cells. The location in almost all reported cases was at the root of the nose, usually extranasally. Rare instances of orbital involvement,⁷ of extension from the root of the nose to the occiput,¹⁰ and of lesions in the pharynx⁶ have been recorded. Clegg and Moore reviewed the case of a 9-month-old infant with bilateral ganglionic neurogliomata occupying the area of the lacrimal sacs.³ The masses appeared to be connected over the bridge of the nose and were found to be adherent to the nasal processes of the superior maxilla and to the nasal bone. We did not find in the literature any report of similar tumors in any location other than the midline.

The case here reported appears to be the first recorded instance of a glioma in such a position, namely in the left cheek, without apparent attachment to the nose. The tumor in the present case consisted of heterotopic central nervous system tissue, including ependymal tissue and choroid plexus, and the morphological features were very similar to those usually seen in so-called nasal gliomas.

REPORT OF A CASE

The patient, a 3-month-old white girl, was admitted to the Hospital of the Good Samaritan on January 29, 1961, for excision of a tumor of the left side of the face. This tumor had been present since birth, and had grown gradually to a size of approximately 6.5x4 cm., extending from the preauricular region toward the orbit. The tumor caused considerable bulging of the left cheek, but there was no infiltration of the overlying skin. The masseter muscle was directly involved, and the anterior wall of the maxilla was displaced posteriorly by the tumor. The infant was well developed and well nourished, and no other congenital abnormalities were evident. The family history was noncontributory, the parents, as well as three siblings of the patient being in good health. Results of laboratory tests done at admission to the hospital were essentially within normal limits. The clinical diagnosis was lymphangioma or neurofibroma.

On January 30 the tumor was excised. At operation, it was found to be a multiloculated cystic and solid mass which occupied most of the area of the left cheek, and extended from the left orbital rim to the left preauricular area. There was no evidence of further extension, and the tumor separated from the bony surfaces without any suggestion of invasion. The point of maximum attachment, aside from the muscle invasion anteriorly, was in the region of the parotid gland and ascending ramus of the left mandible. The tumor eroded the zygoma and displaced the buccal mucosa medially. Tracheostomy was also carried out at the time of the operation.

Pathologist's Examination

The specimen measured 6.5x4x2.8 cm, and weighed 27 grams. The tissue was cystic, the largest collapsed cyst measuring 4 cm, in diameter and being lined by a greyish-pink, focally hemorrhagic glistening membrane. The wall of this cyst averaged from 0.8 to 1.8 cm. thick and was generally firm and greyish-white. Focal areas of old hemorrhage and several smaller secondary cystic structures were also seen. A moderate amount of fatty and muscular tissue were attached to the outer portions of the specimen.

The microscopic examination showed the centrally located cyst as well as numerous additional smaller cysts in the otherwise solid portions of the wall to be lined by a single layer of cuboidal and columnar cells with round or slightly oval, very uniform, smoothly outlined dark-staining nuclei and with a slightly granular, oxyphilic cytoplasm. Many of these cells were arranged in a papillary pattern, the individual papillary processes being supported by delicate stalks of fibrous connective tissue. This histologic appearance was considered to be characteristic of ependymal cells, and portions of the processes actually resembled choroid plexus. Partially in direct continuity with these ependymal cells, and partially in the form of solid masses within the otherwise fibrous or, in areas, muscular solid portions of the specimen, there were islands of brain tissue which were composed principally of astrocytes and were supported by moderate numbers of capillary blood vessels. Focal areas of edema and hemorrhage were seen. In some areas the astrocytes were arranged in the form of anastomosing cords, and in other portions of the specimen there were prominent bundles of nerve fibers. No other foreign tissue elements could be demonstrated. There was no histologic evidence of malignant change, but because of the intimate mixture of the ependymal, glial, and neural elements with the skeletal muscle and fibrous connective tissue, it was difficult to evaluate the actual extent of the lesion, and it appeared doubtful that it was completely excised.

Postoperatively, the patient had intermittent fever and there was some collection of serosanguineous fluid in the wound area, which had to be drained from time to time. Nine days after the surgical procedure, the patient was discharged for further care. Soon after discharge, the infant again had intermittent fever and became very irritable. On February 9, 1961 she was admitted to a hospital in her home town with symptoms of meningitis, including 1,100 cells per cu. mm. in the spinal fluid. No pathogenic organisms grew on cultures of the fluid. Vigorous antibiotic therapy and general supportive measures were begun. The temperature declined to normal but there was a purulent discharge from the surgical wound. A staphylococcus, coagulase-negative, grew on a culture of the material. A cerebrospinal fluid fistula developed in the midpoint of the operative wound.

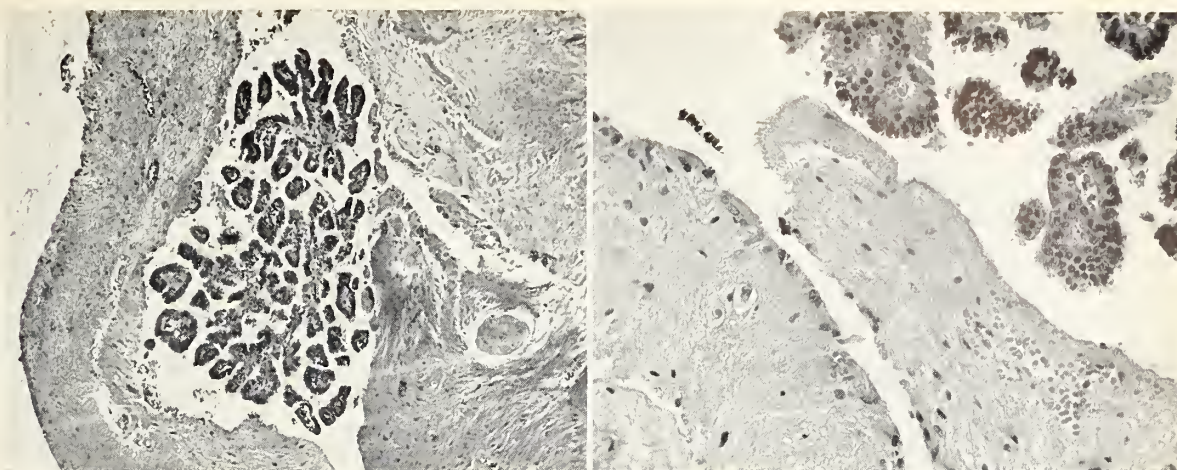


Figure 1.—Medium and high power views of sections of tumor, showing glial tissue and choroid plexus.

The condition of the infant continued to improve, however, and on February 17 a spinal fluid specimen contained 10 cells per cu. mm., protein of 23 mg. per 100 cc., sugar 109 mg. per 100 cc. and chlorides 250 mEq. per liter. When last observed, on March 13, the infant's general condition was good but the cerebrospinal fluid fistula persisted.

X-ray films of the skull and facial bones were taken February 21, the radiologist reporting as follows:

"The inferior quadrant of the left orbit is deformed, being sunken in as compared to the right. The left malar bone is poorly defined and no definite zygomatic arch is made out, although on some films there is the hint of part of the arch. The left maxilla appears to be unusually large and dense. There is a defect about 2 cm. in size, probably in the left temporal bone, about the level of the sella turcica. If this was not produced surgically I believe it is in the nature of an abnormal foramen. I do not make out definite evidence of the presence of the ascending ramus of the mandible, although on some of the sagittal views there is at least a hint that this structure is present. The bones of the calvarium are not remarkable. There are no abnormal calcifications."

COMMENT

The described lesion was unique in location, but histologically was very similar to so-called nasal gliomas. While the tumor was not a true neoplasm, but rather heterotopic central nervous system tissue, it did grow at a faster rate than the surrounding tissue, and its intimate mixture with the skeletal muscles, resembling true invasion, made recurrence appear possible. To term this tumor a glioma is open to criticism, but since the term *nasal glioma* is firmly entrenched in the literature and probably will be retained,⁶ a classification of the reported lesion as a facial glioma is considered practical and descrip-

tive. The pathogenesis of nasal gliomas and related lesions has been well discussed by several investigators.³ and, as was previously noted, the prevalent theory since the original description of Schmidt is that most of the lesions are buds from the anterior vesicle of the brain, either retaining or losing their connections to the central nervous system, but that there may also be lesions arising from local neural elements. In spite of the unusual location, the disorganized pattern and mixture of the individual tissue elements, and the relatively fast rate of growth of the tumor in the present case, the radiologically noted extensive defect of the bones in the involved area and the meningitis and spinal fluid fistula during the postoperative course suggest etiologic similarity to most nasal gliomas. It is assumed that during embryonal life an encephalocele passed through an abnormal foramen in the left temporal bone and that the prolapsed central nervous system tissue continued autonomous growth in a tumor-like fashion.

SUMMARY

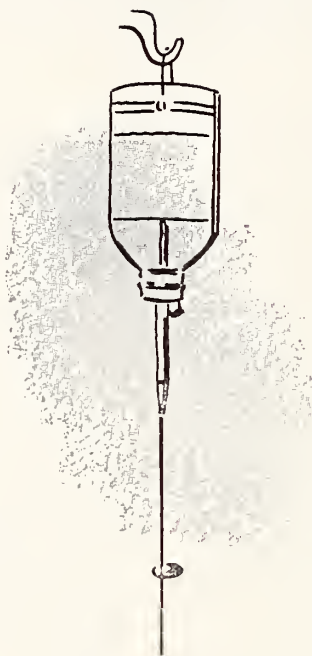
A glioma in the left cheek of a 3-month-old infant is described. This lesion appears to be the first reported case of its kind, and it appears to be related to the nasal gliomas. It was similar in pathogenesis, the tumor apparently originating as an encephalocele through a defect in the left temporal bone with continued growth of the displaced central nervous system tissue, including an admixture of astrocytes, ependymal cells and choroid plexus. The tumor was surgically excised and meningitis and a cerebrospinal fluid fistula developed postoperatively. This case illustrates that complex tumors of heterotopic central nervous system tissue, with sometimes still patent connections with the brain, may occur in locations other than the root of the nose and in the midline.

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EDITORIAL

Medicine's Representative

THE BUSINESS OF REPRESENTING any group of people or businesses or similar interests is a highly complex matter. Where each individual in the group or company must be allowed full power of individual expression, the will of the group, as arrived at by the democratic process, must prevail. Thereafter, the representation of the group must be based on this expression of will or policy.

A case in point at the moment is the political battle under way in the Congress, where pro-administration elements seek to widen the scope of the Social Security laws to provide "free" hospital and allied services to all persons over 65 years of age under the Social Security mechanism.

This is the King-Anderson bill.

Medicine is opposing this bill, for good and sufficient reasons which need no elaboration here. Basically, medicine has placed its reliance in the Kerr-Mills bill of the previous Congress to provide medical care for those above age 65 who have no family, local, county or state aid to provide the hospital and medical services they need. Under Kerr-Mills, federal funds are added to state and county funds, and professional services are purchased for those who actually need them.

The word "need" is reiterated here as a key in considering legislation of this type.

Proponents of King-Anderson would have the public believe that all persons who reach their sixty-fifth birthday are ill, are financially unable to meet the costs of their own care and are unable to obtain medical or hospital services unless a beneficent Congress provides them with these services—not the funds with which to purchase the services but the actual services themselves.

The Kerr-Mills approach is diametrically opposed to this. It presupposes that many older people are not ill, are not financially embarrassed and are not in need of professional or financial assistance. For those who are old, are ill and are not possessed of

the funds to purchase care which they actually need, Kerr-Mills sets up a mechanism whereby such care can be provided.

The proponents of King-Anderson have so far blithely brushed aside the opposing arguments offered by medicine through the American Medical Association. Indeed, they have tried to brush aside the A.M.A. itself as a bungling, archaic, horse-and-buggy organization which does not represent the will of today's physicians.

They have pictured the A.M.A. as a boulder in the path of all progress in medical care. Labor's forces, cooperating with Congressional advocates of King-Anderson, have gone so far as to draw up a bill of indictment of the A.M.A. for having allegedly opposed every medical advance from typhoid inoculations to prepayment health insurance over a period of years. The fact that these allegations are false and have been proved false does not deter the avid proponents of King-Anderson; they go on repeating them as though to make them credible by sheer volume and reiteration.

These same proponents have zealously followed the old rule of divide-and-conquer. They have fostered in various areas little splinter groups of physicians who assert their right of self-expression and declare that the A.M.A. does not speak for them in its opposition to the Social Security approach to the care of the aged.

There have always been and doubtless always will be groups of this type who differ from the decisions of the majority and constitute what has been described as "an overwhelming minority" of the entire body of medicine. Their thoughts are welcomed as material for debate but once a group decision has been reached they are relegated to the minority role and are certainly not representative of the group consensus.

As a means of placing this fractional minority opinion in its proper place, the North Iowa Medical Society recently proposed that every county society

in the country adopt a resolution affirming its belief in and adherence to the policies expressed by the American Medical Association in opposing King-Anderson legislation.

The North Iowa proposal goes still further in advocating a plebiscite of physicians in each county, with all those in favor of the A.M.A. policy affixing their signatures to the county society resolution. The completed document would then become an expression of group opinion in support of the opinion of the larger nationwide group. The individual signatures might even carry a meaning to members of Congress as expressions of opinion from their constituents.

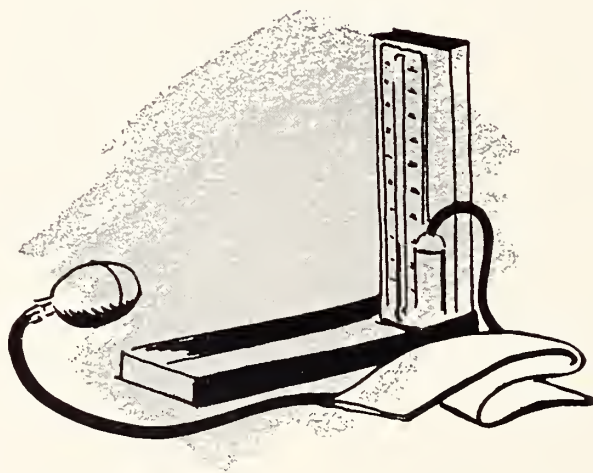
This proposal, still new, has apparently been greeted warmly and immediately in all parts of the country. Counterparts will surely be forthcoming from a large number of county societies across the nation.

The Council of the California Medical Association has reviewed the North Iowa proposal in detail and has voted to support it in California by urging county societies here to follow the techniques used in Iowa, either with or without the plebiscite feature of individual signatures.

Reaffirmation of support to the A.M.A. from the grass roots level cannot but have a salutary effect on the Congress. It will blow down the claims of those who state that the A.M.A. does not represent medical opinion. It will place before each member of Congress a message of opposition to King-Anderson from some of his thinking constituents at home. It will let every member of Congress know that the physicians back home are interested in this legislative proposal and in the Congressman's attitude on it. Finally, it will remove any possibility of a member of Congress voting in favor of King-Anderson and later alleging that he didn't hear any opposition from physicians.

This grass roots approach can be made into a workable and effective tool. Its simplicity and its inherent ingenuousness should make it effective. Its directness should indicate its democratic upbringing. And its adoption county by county should indicate its basic expression of the opinion of the majority in any area without robbing the minority members of their right of free franchise.

It is greatly to be hoped that county societies in California will rise to the occasion and help forge this tool of victory.



The President's Page



Your Plan for Survival

Nature has made up her mind that what cannot defend itself shall not be defended.

EMERSON: *Courage* 1877

TWO GREAT CATASTROPHES hang over the head of America. One hits the headlines each day—the atomic bomb. It would be more sudden and spectacular. The other is more insidious and stealthy—the loss of personal freedom and individual responsibility. But if it comes it will be just as devastating, costly and tragic.

With each of them there is risk of its occurring in the next year or two. The medical component of the loss of freedom will achieve its greatest threat when Congress convenes this January and massive efforts are made by socialistic planners to pass the King-Anderson compulsory payroll tax Social Security Bill.

Much more is at stake than the medical profession (for it will survive in some form under any system). The freedom of the American citizen to exercise his personal decisions concerning health matters affecting his life is in the balance.

The best defense against such catastrophes is to prevent their occurring. In the matter of socialized medicine legislation, this can be done if physicians will rouse from their complacency, become informed and militant and reveal the dangers to their patients.

Our plan for survival is not passive. Our plan provides the answer to the two great problems extant in the health field: How to help those who do not have adequate finance, and how to help those who have reasonable resources but demand a way to avoid financial disaster from medical expenses. For the first problem, all the honest needs are met by implementing the Kerr-Mill Law (Rattigan in California) that will go into effect January 1, 1962. It

permits local controls, uses matching funds and supplements the truly fine programs and facilities we already have for meeting this need in California. Since it is for the needy, every physician will recognize his traditional obligation and help make it work.

For the second problem, the spectacular growth and future of the numerous voluntary prepayment health programs is the American answer. Such programs are being developed for groups and for individuals, over 65 and under 65 and before retirement and after retirement. Their growth is truly amazing and each physician should know the figures, recognize the facts and brag about them.

With these two problems solved, no unmet need will remain.

As Philip Auld of Britain says, "if . . . your 95 per cent can go united into battle in favour of a workable plan, you can swamp the pro-state minority."

We have our plans. The plans are right.

Understand them. Be able to answer questions. Sell them! Talk to your Congressman, especially if you know him personally. Write to him. Speak to opinion leaders.

Tell your patients!

Remember: This catastrophe can strike only once. It is not reversible. We must not make the fatal error of underestimating our strength. We will win if we recognize we are strong enough to win and we remain united and fight for what is right.

Harold B. Smith M.D.

Ninety-first Annual

CALIFORNIA MEDICAL ASSOCIATION

— **APRIL 15-18, 1962** —

SIX OUTSTANDING GUEST SPEAKERS

Surgery

MICHAEL E. DEBAKEY, M.D., Professor and Chairman of Department of Surgery, Baylor University College of Medicine, Houston.

Anesthesiology

ARTHUR S. KEATS, M.D., Professor of Anesthesiology, Baylor University College of Medicine, Houston.

Pathology

MALCOLM B. DOCKERTY, M.D., Surgical Pathologist, Mayo Clinic, Rochester.

Internal Medicine

E. GREY DIMOND, M.D., Director, Institute for Cardiopulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla.

Cardiovascular Research

LOUIS N. KATZ, M.D., Director of Cardiovascular Research, Michael Reese Hospital and Medical Center, Chicago.

Pediatrics

ALEXANDER S. NADAS, M.D., Associate Clinical Professor of Pediatrics, Harvard Medical School, and Cardiologist, Children's Hospital Medical Center, Boston.

Management of Occlusive Arterial Disease

What's New in Hypertension?

• Thromboembolism

C.M.A. SPOTLIGHT ON MEDICINE 1962

Clinical Use of the New Penicillins

Pediatric Cardiology

• Ovarian Tumors

TRAINING PHYSICIANS FOR CALIFORNIA'S MEDICAL NEEDS

Who Will Be the "Family Doctors" in 1970?

Scientific Meeting...

SPECIAL FEATURE: *Basic Science Session*

Chemistry

WENDELL H. GRIFFITH, PH.D., Professor and Chairman, Department of Physiological Chemistry, UCLA School of Medicine.

Anatomy

HORACE W. MAGOUN, PH.D., Professor of Anatomy, Member of Brain Research Institute, UCLA School of Medicine.

Biology

C. M. POMERAT, PH.D., Director, Division of Cellular Biology, Pasadena Foundation for Medical Research, and Clinical Professor of Pathology, Loma Linda University School of Medicine.

Pharmacology

JOHN WEBB, PH.D., Professor and Head of Department of Pharmacology, USC School of Medicine.

Other Attractions

- CLOSED CIRCUIT COLOR TELEVISION—From Presbyterian Medical Center. Participating Panels will include Guest Speakers. Television Programs will be shown Monday, Tuesday and Wednesday mornings.
- MEDICAL MOTION PICTURE SYMPOSIA—Motion picture symposia will be held Sunday, Monday and Tuesday afternoons and evenings and Wednesday afternoon.
- Pre-Convention Cancer Conferences on Pathology and Radiology, Saturday, April 14.
- Presidents' Dinner Dance, Sunday night, Venetian Room, Fairmont Hotel.
- House of Delegates Opening Session, Saturday evening, April 14; Tuesday afternoon and all day Wednesday.
- Hotel Reservations: See page 402.

PLAN NOW TO ATTEND

Sunday through Wednesday, April 15-18, 1962
FAIRMONT HOTEL, SAN FRANCISCO

APPLICATION FOR HOTEL ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association**, April 15-18, 1962, San Francisco, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

**All Reservations must be made
through the
C.M.A. Housing Bureau**

DEADLINE: MARCH 16, 1962

Ninety-first Annual Session CALIFORNIA MEDICAL ASSOCIATION San Francisco, California APRIL 15*-18, 1962

HOTEL ROOM RATES†

	Single	Twin Beds	Suites
MARK HOPKINS* (HEADQUARTERS) California and Mason.....	18.00-22.00	22.00-26.00	35.00-110.00
FAIRMONT California and Mason.....	17.00-24.00	21.00-28.00	40.00- 96.00
FAIRMONT TOWER California and Mason.....	26.00-31.00	30.00-36.00	from 65.00
HUNTINGTON 1075 California	14.00-20.00	15.00-25.00	40.00- 50.00
SHERATON-PALACE Market at New Montgomery	9.85-15.00	13.85-19.00	25.00- 75.00
ST. FRANCIS Powell and Geary.....	12.00-24.00	15.00-27.00	30.00- 55.00
SIR FRANCIS DRAKE Sutter and Powell.....	12.00-17.00	14.00-22.00	34.00- 52.00
JACK TAR Van Ness and Geary	14.00-24.00	16.00-24.00	32.00- 54.00

*April 14: House of Delegates will start with evening meeting Saturday, April 14, at the Mark Hopkins Hotel; all Scientific Sessions and Exhibits will be at the Fairmont Hotel.

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION—Housing Bureau

693 Sutter Street
San Francisco 2, California

Please reserve the following accommodations for the 91st Annual Session of the California Medical Association, in San Francisco, April 15-18, 1962. (House of Delegates members: First meeting of House begins Saturday afternoon, April 14, Mark Hopkins Hotel.)

Single Room \$ Twin-Bedded Room \$

Small Suite \$ Large Suite \$ Other Type of Room \$

First Choice Hotel..... Second Choice Hotel.....

ARRIVING AT HOTEL (date):..... Hour:..... A.M..... P.M. { Hotel reservations will be held until
Leaving (date) Hour:..... A.M..... P.M. { 6:00 p.m., unless otherwise notified.

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

Individual Requesting Reservations—Please print or type: Officer?..... Delegate?..... Alternate?.....

Name..... County.....

Address..... City and State.....

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.

Director, State Department of Public Health

IN RESPONSE to a request from the University of California, Los Angeles, the department's Bureau of Occupational Health undertook an investigation of a blood disorder occurring in certain patients at the Pacific State Hospital in Pomona.

This disorder results when ordinary hemoglobin in the blood is converted to oxidized hemoglobin, a compound which has lost much of its oxygen transport capacity. At the hospital nine patients suddenly developed a marked dusky, bluish discoloration of the skin characteristic of this disease.

The ward physician promptly diagnosed the condition and administered appropriate treatment with gratifying results. Hospital authorities immediately investigated and considered the various possible causative factors. A careful examination, however, revealed no evidence of toxic materials known to produce this or related disorders. It was noted, however, that there was an alteration of the usual technique of preparing routine enemas for these patients.

The services of the Bureau of Occupational Health personnel were requested because of their familiarity with toxicological problems of an obscure nature. In collaboration with the hospital authorities, the epidemiological aspects of the cases were traced through the 24-hour period immediately preceding the onset of illness.

It became evident that the only change in technique was in the preparation of the soap gel used in preparing the enemas. Contrary to usual procedure, the soap chips used to prepare the gel had been heated with a small quantity of water to a temperature near boiling for a period of one or more hours on the night preceding the incident. The composition of the soap was obtained from the manufacturer, and it was learned that this particular product contained 2 per cent by weight of a bacteriostatic agent which might conceivably break down to a form a substance responsible for the outbreak of the disorder.

A sample of the soap was carefully analyzed and tested by the industrial hygiene chemist at the Branch Public Health Laboratory in Los Angeles. The chemist's determinations proved conclusively that this indeed was the case and that heating the soap altered the chemical nature of the bacteriostatic agent. These breakdown products were then absorbed from the enema solution through the bowel wall to produce the oxidized hemoglobin and cyanosis characteristic of this disease.

The Bureau of Public Health Contract Services came up with some interesting population figures recently—statistics which are of importance in giving direction to the types of public health programs which should be developed.

According to the Bureau, Lake County has more people over the age 65 per capita than any other county in California. Nearly 20 per cent of the population are senior citizens. Close behind Lake is Santa Cruz County with 19.1 per cent, followed by Nevada County with 15.4 per cent of its population over the age of 65.

Calaveras and Mariposa follow closely with 14.6 per cent.

Other counties with a greater share of older people than the rest of the state are Amador, Butte, Napa, San Francisco, and Sonoma.

Tehama County has become the twelfth county to contract with the State Health Department for services. This means that 25,450 more Californians will benefit from public health programming, designed to meet their needs in sanitation and preventive medical services.

Other counties served through the Bureau are Alpine, Amador, Calaveras, El Dorado, Lake, Mariposa, Modoc, Mono, Nevada, Sierra, and Trinity. The only counties in California without local organized public health programs are Glenn, Lassen, Tuolumne, and Siskiyou.

Are You Up-to-Date?

THE FOLLOWING ABSTRACTS some portions of the Workmen's Compensation Act that should interest physicians and indicate some recent changes adopted by the Legislature. More detail can be obtained from the Industrial Accident Commission in a pamphlet, "Information Regarding the Workmen's Compensation Law of California," effective September 18, 1959.

The injured employee is entitled to receive all medical, surgical and hospital treatment essential to the cure or relief of an industrial incident or occupational disease. The employer (or his insurer) has the "full responsibility for and control of furnishing all essentially required medical treatment." If there is failure to furnish prompt and adequate treatment of a reported injury, the employee may obtain the necessary treatment and through the Industrial Accident Commission seek to charge the cost of this against the employer or insurer.

If the employee is not satisfied with the treatment or the attending physician, he may request a change of physician. If a list of physicians from which he may choose is not submitted to the employee within 12 days from the date of his request, he may go to his own physician at the expense of the employer or insurer.

In a serious case the employee may request the services of a consulting physician of his own choice at the expense of the employer. The Industrial Accident Commission determines whether a case is serious or not. The employee's right to provide at his own expense a consulting or attending physician he desires is not limited by law.

When an employee is entitled to compensation, he must, at reasonable intervals, submit to examination by a physician furnished or designated by the employer or insurer. Should he fail to do so, he may seriously affect his right to compensation benefits. If there is pay loss due to reporting for such examination, the employee is entitled to one day's compensation for each lost day as well as reasonable costs, including room, meals and transportation, if necessary.

In contested claims where the employee reasonably requires medical opinion and report of a physician to prove his claims, he may seek reimbursement for the necessary expense of this, including related expense for x-rays and laboratory tests and, if necessary, for the attendance of such a physician to testify at a commission hearing.

Temporary disability payments are not made for the first seven days of disability unless the injury causes disability to extend beyond the 49th day. However, if the injury requires hospitalization, such payments begin with the date of hospitalization.

In the State of California the percentage of permanent disability is not determined by the physician. The physician submits in proper form (see "Evaluation of Industrial Disability," Oxford University Press) a report describing the physical impairment present, and subsequently the rating bureau of the Industrial Accident Commission formulates a rating of the per cent of disability. Therefore, the physician who estimates a percentage of disability is simply introducing a confusing and valueless factor.

Except in cases where disability does not last through the day or does not require medical treatment other than ordinary first aid, the physician must file a complete report of the injury with the Division of Labor Statistics and Research. Such a report must be filed within five days after the injury.

COMMITTEE ON OCCUPATIONAL HEALTH
CALIFORNIA MEDICAL ASSOCIATION

*This is the third of a series of articles presented by the Committee on Occupational Health.

NEXT MONTH: **STANDING ORDERS—ARE YOU LIABLE?**

— In Memoriam —

ANDREWS, HOWARD, Los Angeles. Died October 22, 1961, in Hollywood, aged 84, of a pulmonary embolus with intestinal obstruction. Graduate of the University of Illinois College of Medicine, Chicago, 1906. Licensed in California in 1910. Doctor Andrews was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



AVERY, RALPH W., Encino. Died October 9, 1961, in Los Angeles, aged 85, of cardiac standstill. Graduate of Northwestern University Medical School, Chicago, Illinois, 1903. Licensed in California in 1905. Doctor Avery was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.



BROWN, CHARLES WILLIAM, San Diego. Died October 18, 1961, in San Diego, aged 73. Graduate of the College of Physicians and Surgeons, Medical Department, University of Southern California, Los Angeles, 1917. Licensed in California in 1917. Doctor Brown was a member of the San Diego County Medical Society.



FITZGERALD, JOHN FRANCIS, Atascadero. Died October 22, 1961, in Atascadero, aged 65. Graduate of the University of California School of Medicine, San Francisco, 1930. Licensed in California in 1930. Doctor Fitzgerald was an associate member of the San Luis Obispo County Medical Society.



GUIDO, FRANK R., Visalia. Died October 15, 1961, aged 59, of heart disease. Graduate of Rush Medical College, Chicago, Illinois, 1926. Licensed in California in 1930. Doctor Guido was a member of the Tulare County Medical Society.



HARRIS, ROWLAND HILL, La Jolla. Died October 28, 1961, in National City, aged 83. Graduate of American Medical Missionary College, Battle Creek, Michigan, and Chicago, Illinois, 1901. Licensed in California in 1929. Doctor Harris was a member of the San Diego County Medical Society.



HENRIE, CHARLES C., Laguna Beach. Died October 16, 1961, at Laguna Beach, aged 54. Graduate of Ohio State University College of Medicine, Columbus, 1936. Licensed in California in 1945. Doctor Henrie was a member of the Orange County Medical Association.



KIMMEL, CHARLES B., Marysville. Died October 8, 1961, in San Francisco, aged 55. Graduate of Northwestern University Medical School, Chicago, Illinois, 1933. Licensed in California in 1939. Doctor Kimmel was a member of the Yuba-Sutter-Colusa County Medical Society.



KOENIG, MICHAEL T., Riverside. Died October 17, 1961, in Riverside, aged 66, of heart disease. Graduate of Stritch School of Medicine of Loyola University, Chicago, Illinois, 1926. Licensed in California in 1949. Doctor Koenig was a member of the Riverside County Medical Association.

Howard Christian Naffziger

Through an oversight we omitted the name of the author of the splendid memorial article about the late Doctor Howard Christian Naffziger that appeared on pages 330-331 of the November 1961 issue. It was written by Doctor Leon Goldman, Professor and Chairman of the Department of Surgery, University of California, San Francisco, School of Medicine.

MADSEN, LEO JOHN, Santa Monica. Died November 8, 1961, in Santa Monica, aged 64, of a subdural hematoma. Graduate of the University of Minnesota Medical School, Minneapolis, 1923. Licensed in California in 1926. Doctor Madsen was a member of the Los Angeles County Medical Association.



MATZGER, EDWARD, San Francisco. Died November 7, 1961, in San Francisco, aged 63. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1921. Licensed in California in 1923. Doctor Matzger was a member of the San Francisco Medical Society.



ROBINSON, JACOB MAURICE, San Francisco. Died November 6, 1961, in San Francisco, aged 55, of heart disease. Graduate of the University of California School of Medicine, San Francisco, 1930. Licensed in California in 1930. Doctor Robinson was a member of the San Francisco Medical Society.



ROWELL, CARLTON L., Long Beach. Died October 11, 1961, in Long Beach, aged 69, of carcinoma of prostate. Graduate of Chicago College of Medicine and Surgery, 1917. Licensed in California in 1944. Doctor Rowell was a member of the Los Angeles County Medical Association.



SMITH, BERNARD HERMAN, Brentwood. Died October 13, 1961, in Brentwood, aged 74, of coronary occlusion. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1921. Licensed in California in 1928. Doctor Smith was a member of the Los Angeles County Medical Association.



VON GELDERN, CHARLES E., Sacramento. Died October 12, 1961, in Sacramento, aged 76, of pneumonia. Graduate of Stanford University School of Medicine, Palo Alto-San Francisco, 1913. Licensed in California in 1913. Doctor von Geldern was a member of the Sacramento Society for Medical Improvement.



WACHSBERGER, ALFRED, Sacramento. Died September 28, 1961, in Sacramento, aged 60. Graduate of Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Prussia, Germany, 1925. Licensed in California in 1945. Doctor Wachsberger was a member of the Sacramento Society for Medical Improvement.

INFORMATION

Physician Supply in California

A Report by the Bureau of Research and Planning

DURING THE 1961 session of the House of Delegates, Resolution No. 58 requested that a poll of physicians in California be made to determine whether a shortage of physicians exists in this state. The resolution cited recent improvements in, and greater availability of, medical care as possible reasons for lack of validity of the arguments alleging a shortage of physicians in the United States. In its report, the Reference Committee observed that the Bureau of Research and Planning has been giving consideration to this subject and recommended that the resolution be referred to the Council for transmittal to the bureau.

The Bureau of Research and Planning has had made available to it the findings of various studies and other data relating to the supply of physicians and other manpower for the United States and the State of California. It has attempted to relate the material to the problem of physician supply as it exists in California, and to study pertinent evidence which has been documented through several recent studies. Among the different studies consulted were the following:

Meeting the West's Health Manpower Needs, the Western Interstate Commission for Higher Education (WICHE), 1960.

Physicians for a Growing America, U. S. Department of Health, Education and Welfare, 1959.

Health Manpower Source Book, U. S. Department of Health, Education and Welfare, 1959.

Health Care for California, California Governor's Committee on the Study of Medical Aid and Health, 1960.

Distribution of Physicians by Medical Service Areas, American Medical Association, 1954.

America's Health, National Health Assembly, 1948.

Inasmuch as physician-population ratios have historically been used as indices of the adequacy of physician supply, the bureau believes that until

more satisfactory methods of evaluating this problem are developed, its own assessment must necessarily be based upon this type of measurement. The Bureau of Research and Planning does not believe that a poll solely among physicians can provide truly objective and definite conclusions. If contemplated, such a poll would have to encompass broad community representation in order to compare responses and test the validity of various opinions that are expressed, with regard both to the demand for medical care and the estimated needs of the public. And for such a technique, it is suggested that physicians in their local areas may be in a better position to secure the opinions of patients and various representatives of the community in order to determine the experiences the latter have had in securing medical services in their own communities.

From the nature of the evidence presented, the bureau must reach the conclusion that the manpower picture in California should be reviewed in relationship to that of the rest of the country. Its future growth depends not only upon the manpower available within the state and from other areas in the country, but must be responsive to a variety of factors such as population growth, increased demands for medical care, and changing concepts of the socio-economics of medical care. For the present (and based upon 1959 data), the State of California stands in a unique and enviable position, among all states, in possessing a physician-population ratio which is one of the highest in the country: 165 non-federal M.D.'s per 100,000—as against 125 per 100,000 for the United States; 183 non-federal M.D.'s and D.O.'s per 100,000—as against 133 non-federal M.D.'s and D.O.'s per 100,000 population for the United States. The fear, of course, which has been commonly expressed relates to the maintenance of these ratios for the future. In this regard, California's physicians and the entire medical profession should be in a favorable position of planning meaningfully for, and anticipating, the wants and desires of the public and newer developments in the practice of medicine.

While it is true that the word "shortage" does not literally apply to most of the geographic areas of the state, there are communities in which more physicians are undoubtedly needed; there are hospitals and other medical facilities which have indicated they can utilize more physicians, and there are individuals who feel that they do not have as ready access to medical care as do those who live in metropolitan areas. The fact is that, in 1959, over three-fourths (77 per cent) of the population were living in metropolitan counties or counties contiguous to them. It is also fairly well established that physicians, for economic and professional reasons, tend to concentrate in urban communities. Nation-

Approved by the Council of the California Medical Association, September 23, 1961.

ally, and just considering active non-federal physicians (M.D.), it was found that ratios of physicians to population in metropolitan service areas were 133 per 100,000 in contrast to 75 per 100,000 in isolated areas.

Actually, no one knows precisely how many physicians this country or this state will require, let us say, by 1975. The most commonly used yardstick is that which establishes some kind of arithmetic ratio—the proportion of physicians to 100,000 population. The existence of differing estimates of future medical manpower needs by different organizations highlights the inexactness of the “science” of anticipating social goals and needs and new developments in professional organization and technology. To cite two such estimates, the Report of the Governor’s Committee on Medical Aid and Health estimates that, assuming a population of 25.3 million in 1975, California will need 44,300 M.D.’s and D.O.’s to maintain a physician-population ratio of 175 per 100,000. However, the estimates contained in the *West’s Medical Manpower Needs* (WICHE) call for 37,365 physicians by 1975 to serve an estimated population of 23.5 million people in order to maintain California’s 1955 physician-population ratio of 159 per 100,000.

More recent estimates of population growth indicate a California population of some 24 million in 1975. The bureau estimates that to maintain the 1959 California active physician (M.D.) ratio, approximately 36,500 non-federal physicians will be needed. To maintain the M.D. and D.O. ratio of active non-federal physicians, 41,000 will be needed. (Appended are several breakdowns as they relate to the distribution of physicians and osteopaths in the United States in mid-1959. They are derived from data in the *Health Manpower Source Book*. The estimates for California vary somewhat from other estimates due to different interpretations of the data in the source material.)

The Bureau of Research and Planning believes that some of the confusion in the interpretation of ratios can be eliminated if general agreement can be reached regarding the uniform classification and categorization of physicians. Some ratios are based upon total physician supply, others on physicians in active non-federal practice, while yet others exclude federal physicians and doctors of osteopathy. Furthermore, the exclusion of federal physicians from most of the ratios disregards the fact that many of them are today engaged in the provision of care for veterans for nonservice-connected disabilities, or for dependents of members of the armed forces. The bureau wishes to note that this omission tends to underestimate the ratio of physician-population supply.

Students of the problem of medical manpower

TABLE 1.—Number of Physicians (M.D. and D.O.) in the United States and California; Mid-1959.

	United States	California
Total physicians (M.D.)	236,089	24,157*
Non-federal physicians (M.D.)	218,570	23,605
Total physicians (D.O.)	14,109	2,621
Total non-federal physicians (M.D. and D.O.)	232,679	26,226

*Does not include federal physicians employed by the Department of Defense. The total number of federal physicians in the U. S. in 1959 was 17,519. Of this number 6,273 were employed by the Public Health Service and the Veterans Administration. About 9 per cent (552) were in California.

TABLE 2.—Number and Rates per 100,000 Population, Non-federal Physicians (M.D. and D.O.); Mid-1959

	United States	California
Population	174,409,000	14,306,000
Non-federal physicians (M.D.):		
Number	218,570	23,605
Rate per 100,000	125	165
Non-federal physicians (M.D. and D.O.):		
Number	232,679	26,226
Rate per 100,000	133	183
Non-federal M.D.’s in active practice:		
Number	208,253	21,810
Rate	119	152
Non-federal M.D.’s and D.O.’s in active practice:		
Number	222,362	24,431
Rate	127	171

have questioned the purely arithmetical index approach to the problem by pointing to a variety of factors which may either increase or decrease the demand for physicians’ services. Doctor Ward Darley, executive director of the Association of American Medical Colleges, has enumerated some of the factors which call for a possible increase in physician supply and those that might result in a decreased demand for them.

The factors which would appear to necessitate an increase are: (1) Increasing size of population; (2) increasing numbers of aged; (3) increasing prevalence of chronic disease; (4) expanding medical and public health services of government, industry, public schools and colleges; (5) development of new specialties; (6) better distribution of physicians into areas not adequately supplied; (7) earlier detection and prevention of illness; (8) increasing awareness of the public in health care, and (9) increasing ability of the public to purchase medical care.

The factors which would appear to indicate less need for physicians are: (1) Ability of physicians to see more patients in less time; (2) more effective use of scientific tools; (3) improved transportation

TABLE 3.—Type of Practice of Non-federal Physicians (M.D.) in the United States and California; Mid-1959.

	United States	California
Number of physicians:		
Private practice:		
General practice	81,957	7,482
Full-time specialty	78,635	9,587
Hospital service:		
Intern, resident	24,818	2,478
Other	14,912	1,407
Teaching, administration	7,931	856
Not in medical practice	10,931	1,795
Total	218,570	23,605
Per cent of physicians:		
Private practice:		
General practice	37	32
Full-time specialty	36	41
Hospital service	18	16
Teaching, administration	4	4
Not in medical practice	5	7
Total	100	100

and communication: (4) concentration of population; (5) development of group practice; (6) more visits to patients in hospitals instead of to their homes; (7) increasing use of ancillary and technical personnel; (8) development of new drugs and surgery; (9) increasing effectiveness of diagnostic and preventive medicine; (10) increasing amount of medical care rendered by residents, interns and medical students, and (11) more rapid entry of physicians into private practice following professional education and training.

Doctor Darley said:

"As to just how these two sets of factors will ultimately balance out, no one can tell, but it is my opinion that as time goes on, the first set of factors will outweigh the second. If this is so, we will definitely need many more physicians than we can graduate with the facilities currently in prospect. . . ."

California depends upon graduates of schools outside of the state, and on foreign graduates, to maintain the physician-population ratios which have existed in the past. It has been estimated that 1,500 physicians represent the actual net addition to California's medical manpower each year. About 15 per cent of them are graduates of California medical schools. Of the 330 to 340 who graduate each year, only about two-thirds remain to practice in the state. It is this fact which has created pressures for increasing the number of first places in medical schools and for additional medical schools in the state. The fear of a shortage appears to be founded in fact if graduates of other schools fail to be attracted to California; if greater percentages of physicians undertake teaching, research and other full-time activities or

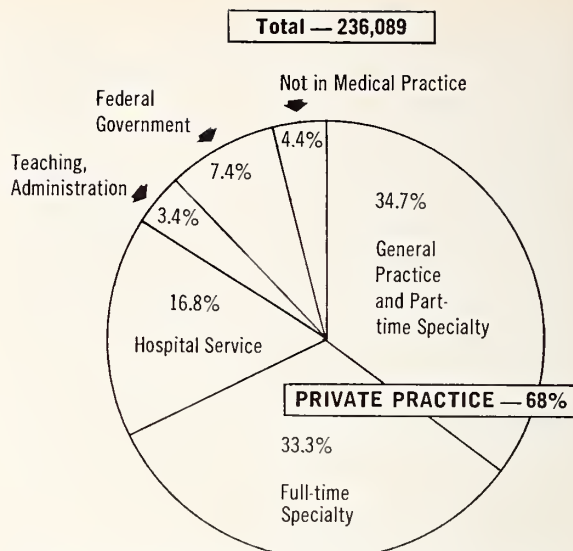


Chart 1.—Total physicians (M.D.) in the United States, by type of practice, mid-1959.

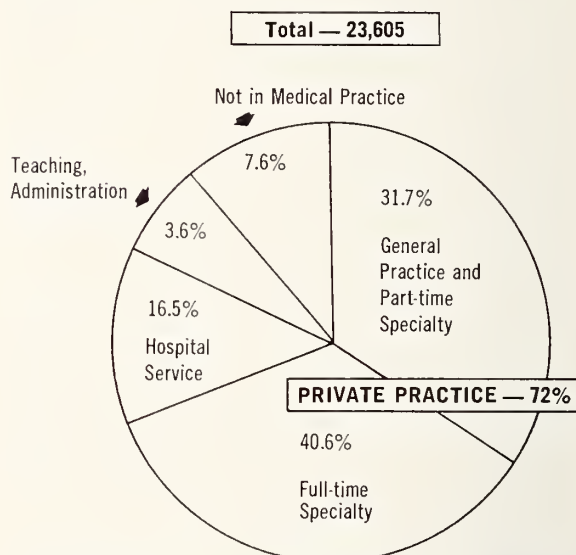


Chart 2.—Non-federal physicians (M.D.) in California, by type of practice, mid-1959.

greater specialization, and if students continue to be attracted to other professions where prestige, independence and monetary rewards are greater. The latter developments have already received fairly widespread documentation. If to these are added (1) the increasing levels and standards of health care which are a present-day phenomenon of health care to the public, and (2) the anticipated population growth, it can be seen that concerns for the future supply of physicians become more apparent and real. It has been estimated that, at present levels, assuming no migration of physicians from state of graduation, and no immigration of graduates of foreign schools, California's physician-population

ratio would decrease to 105 (M.D.'s and D.O.'s) per 100,000 population by 1970.

The Bureau of Research and Planning believes that the medical profession should recognize the challenge it faces in the future and can best be prepared to do so by taking all necessary steps to assure an adequate supply of physicians to meet the requirements of a changing economy. What these requirements are exactly, no one knows, but it is inevitable that an increasing population, and changing social and economic trends necessitate close examination

by all medical societies of the roles they can and should plan to assure the provision of physicians' services as they are called upon. The best "preventive" medicine for the future of medical manpower appears to lie in the direction of supporting efforts to assure an adequate and plentiful supply of physicians for the years ahead. The bureau's research program calls for further analyses of these and other data as they become available through surveys it is in the process of conducting.

693 Sutter Street, San Francisco 2.

Administration of Blood by Registered Nurses

Joint Statement by California Medical Association, the California Hospital Association and the California Nurses' Association

After several years of favorable experience with registered nurses giving intravenous injections of fluids under the criteria set out in a joint statement by the California Medical Association, the California Hospital Association and the California Nurses' Association, it was proposed that it would be appropriate for registered nurses to administer blood. Careful study of current experience in various places with registered nurses giving blood transfusions convinced a joint committee that it recommend the adoption of the following statement which was approved by the associations indicated.*

THE California Medical Association, the California Hospital Association and the California Nurses' Association in 1956 issued a Joint Statement on the Administration of Fluids Intravenously by Nurses. The joint statement sets forth the criteria under which it is agreed a nurse in California may legally start and administer fluids intravenously.

The C.M.A., C.H.A., and C.N.A. also acknowledge their acceptance of the legal right of registered nurses to start and administer blood if and when all the criteria set forth below are met:

1. The nurse has had special competent teaching in the technique;
2. The nurse performs the technique upon the order of a licensed doctor of medicine;
3. The order is for a specific patient;
4. Where the technique is to be performed in a hospital or any other organized agency, the procedure be performed within the framework of designated preparation and practice of the nurse established for the hospital or agency by a committee

*A copy of the statement is appended.

composed of representatives from the medical staff, the department of nursing and the administration; this framework of preparation and practice to be reproduced in writing and made available to the total medical and nursing staffs; and

5. It is the jurisdiction of that committee in a hospital or organized agency to:

(a) Decide if the nurses in the hospital or agency may perform the technique;

(b) Determine the special teaching to be required;

(c) Establish in-service teaching of the technique for any nurses who may not have had adequate previous instruction;

(d) Delineate the solutions which may be given safely with blood, and

(e) Determine whether physicians' orders should be written or oral (such determination to be consistent with the hospital's or agency's rules regarding written confirmation of oral orders).

April 30, 1961

Joint Statement† by the California Medical Association, the California Hospital Association, the California State Nurses' Association, and the California League for Nursing, on the Intravenous Administration of Fluids by Nurses Practicing in the State of California

The California Medical Practice Act grants to licensed physicians and surgeons, the legal right to "sever or penetrate the tissues of human beings . . . in the treatment of . . . physical or mental conditions . . ."

Because of the law and its interpretations, there have been years of inconclusive discussion as to a nurse's legal right to start and administer fluids intravenously.

†November 5, 1956.

In evaluating the factors to be considered in any definitive statement upon the question, the general criteria stated by the California Supreme Court when it considered the legality of another nursing function in the case of *Chalmers-Francis v. Nelson*, has been used as a guide.

"Intravenous administration of fluids" is accepted as meaning: the introduction of fluids into a vein.

It is recognized that under controlled conditions in many parts of the state, qualified nurses have been administering fluids intravenously.

With the objective of protecting the patient, the doctor, the nurse, and the hospital, the California Medical Association, the California Hospital Association, the California State Nurses' Association, and the California League for Nursing acknowledge their acceptance of the legal right of nurses to start and administer fluids intravenously if all the following conditions exist:

1. The nurse has had special competent teaching in the technique, and
2. The nurse performs the technique upon the order of a licensed doctor of medicine, and
3. The order is for a specific patient, and
4. Where the technique is to be performed in a hospital or any other organized institution, the procedure be performed within the framework of preparation and practice established for the hospital by a committee composed of

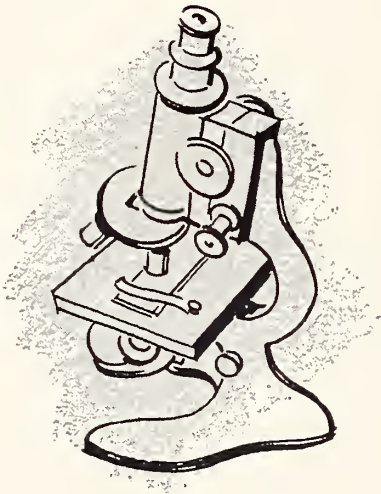
representatives from the medical staff, the department of nursing, and the administration; this framework of preparation and practice to be reproduced in writing and made available to the total medical and nursing staffs.

5. It is the jurisdiction of that committee in a hospital to:

- (a) Decide if the nurses in the hospital may perform the technique
- (b) Determine the special teaching to be required
- (c) Establish in-service teaching of the technique for any nurses who may not have had adequate previous instruction
- (d) Delineate the types of fluids or medications that nurses may administer intravenously
- (e) Determine whether physicians' orders should be written or oral (such determination to be consistent with the hospital's rules regarding written confirmation of oral orders).

It is recognized that the final decision in any interpretation of a law is the jurisdiction of our courts.

However, since the factors upon which this accord is based and the terms of agreement, in general, meet the criteria of the California Supreme Court decision, this statement is presented as a workable answer relative to the right of a nurse in California to begin and to administer fluids intravenously.



NEWS & NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

A permanent series of annual lectures at the University of Texas Medical School in Galveston, Texas, has been named in honor of **Dr. Arild E. Hansen**, director of research at the Bruce Lyon Memorial Research Laboratory, Children's Hospital of the East Bay, Oakland.

The first lecture, covering the role of linoleic acid in human nutrition, was given by Dr. Hansen himself last month. It was attended by former students and colleagues, as well as physicians from all over the southwest.

The lectureship is being endowed by former students of Dr. Hansen, who was professor and chairman of the department of pediatrics at the Texas medical school from 1944 until he joined the staff at Children's Hospital of the East Bay as research director in September, 1959.

LOS ANGELES

Dr. H. W. Magoun, professor of anatomy at the University of California School of Medicine, last month received the **Borden Award in the Medical Sciences** for 1961 in recognition of his "outstanding work in basic research in the field of neurophysiology." The award, which includes a gold medal and \$1,000, was presented by Dr. S. Marsh Tenney, dean of the Dartmouth Medical School, Hanover, N. H., at the annual banquet of the Association of American Medical Colleges, meeting at the Queen Elizabeth Hotel, Montreal.

* * *

Dr. Donald C. Collins, Hollywood, was elected a vice-president of the American College of Gastroenterology at the recent annual meeting of the college in Cleveland.

* * *

The **Research Study Club of Los Angeles** will hold its 31st annual midwinter convention in ophthalmology and otolaryngology January 22-26, 1962. Further information may be obtained from Dr. Norman Jesberg, 500 South Lucas Ave., Los Angeles 17.

* * *

Dr. Frank F. Tallman, head of the department of psychiatry at the UCLA School of Medicine, has been appointed by Governor Edmund Brown to the Special Commission on the Problems of Insanity Relating to Criminal Offenders. He fills a vacancy created by the resignation of Dr. Edward Stainbrook of Pasadena. Dr. Tallman was director of the California Department of Mental Hygiene before joining the UCLA faculty.

* * *

A 100-hour refresher course for registered nurses who wish to re-enter the profession has been announced by three San Gabriel Valley hospitals.

St. Luke and Huntington Memorial Hospitals, Pasadena, and the Methodist Hospital of Southern California, Arcadia,

have jointly established the course which will be held during the month of February, 1962.

The course has been established to help alleviate the local shortage of nurses by enabling those who have been out of nursing to bring up their proficiency to the point where they may return to the profession. In charge of the program are Sister St. John, nursing supervisor of St. Luke, and the nursing supervisors of the other hospitals, Margaret Aubrey, R.N., of Huntington Memorial and Evelyn Coon, R.N., of Arcadia Methodist.

Classes will be held on a full-day, five-day-a-week basis, with the students rotating among the three hospitals in order to get complete benefit of all facilities.

Enrollment is limited to 45. Applications may now be made at the Nursing Offices of the hospitals.

MARIN

Dr. C. Ray Leininger, San Rafael, was elected president-elect of the Marin County Medical Society at the society's November meeting. Dr. Joseph Arons, also of San Rafael, became president, and Dr. Calvin Plumbhof was re-elected secretary.

Drs. Robert F. Schell and Roger Hedin were elected delegates to the California Medical Association.

SAN FRANCISCO

Dr. L. Henry Garland of San Francisco received the Radiological Society of North America's gold medal for distinguished service at the group's 47th annual meeting in Chicago, November 30.

Dr. Garland is a past president of the Society and is currently president of the American College of Radiology.

SANTA BARBARA

Dr. August Mollath of Santa Maria was elected district governor of Rotary International for 1961-62 at Rotary's convention in Tokyo. As governor of Rotary district 524 in California, he supervises 40 Rotary clubs in the area.

SANTA CLARA

Dr. Dwight Bissell, San Jose city health officer, was elected president of the **California Conference of Local Health Officers** for 1961-62 at the semi-annual meeting of the organization, held in Woodland, Yolo County, October 25 and 26. He succeeds Dr. Herbert Bauer, Yolo County health officer. Dr. Robert S. Westphal, Stanislaus County health officer, who was secretary last year, was elected vice-president, and Dr. Carolyn B. Albrecht, Marin County health officer, was elected secretary.

GENERAL

Component county societies of the California Medical Association are being asked to pass and send to the American Medical Association resolutions demonstrating their **support of A.M.A.'s position** on ways to supply medical care to needy aged.

The A.M.A. has strongly backed the **Kerr-Mills Law** providing for federal assistance, through state and county governmental agencies for needy and near-needy who need medical attention. It has opposed the features of the King-Anderson Bill which would use the social security tax mechanism to supply medical care for recipients of Social Security retirement benefits, whether or not they have need for assistance.

The Council at its last meeting approved the county society resolution method of refuting charges by proponents

of the King-Anderson bill that the A.M.A. position is not representative of a majority of physicians.

* * *

Dr. Malcolm H. Merrill, California Director of Public Health, was elected president of the **Association of State and Territorial Health Officers** when the association held its annual conference in Washington, D. C., last month.

* * *

The Ninth Congress of the **Pan-American Surgical Association** will be held November 5-13, 1963, in Honolulu, the Association announced, and the First Pan-Pacific Mobile Educational Lecture Seminar will be held November 13-December 10, 1963, in New Zealand, Australia, Thailand, the Philippines, Hong Kong and Japan.

All physicians are cordially invited to attend both of these meetings, the announcement said. The Ninth Congress offers an extensive scientific program of 300 leading surgeons in nine surgical specialties.

The Seminar through the Pacific area offers, for the first time, scientific meetings in each country that will present medical materials unique to the areas.

Further information may be obtained from Dr. F. J. Pinkerton, director general, Pan-Pacific Surgical Association, Suite 570, Alexander Young Building, Honolulu 13, Hawaii.

* * *

The institution of a program of annual **international awards** totalling up to a quarter of a million dollars for achievement in the field of **mental retardation** was announced recently by Edward M. Kennedy, president of the Joseph P. Kennedy Jr. Memorial Foundation at the Kennedy Memorial Hospital in Brighton, Mass.

Recipients of the awards will receive from \$5,000 to \$25,000 each for individual achievement and up to \$50,000 each as support for furtherance of his or her projected or continuing program. First awards will be bestowed in early 1963 for work done during the calendar year of 1962, and annual awards will be continued as long as the accomplishments of the program justify.

Nominations for a Kennedy International Achievement Award will be sought from institutions, organizations, and individuals working in the field of mental retardation.





THE PHYSICIAN'S *Bookshelf*

POLIOMYELITIS—Papers and Discussions Presented at the Fifth International Poliomyelitis Conference, Copenhagen, Denmark, July 26-28, 1960—Compiled and Edited for the International Poliomyelitis Congress, J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pa., 1961. 435 pages, \$7.50.

This book is a report of a conference on virology and the poliomyelitis problem which was held in July 1960, publication having been delayed one year.

The first portion deals with fundamental studies of poliomyelitis virus, most of which, like viral interference, are applicable to many viral diseases other than poliomyelitis. The second portion is concerned with inactivated virus vaccines and includes reports from various parts of the world on the efficacy of current programs, two papers on standardization of poliomyelitis vaccine potency and, finally, discussion of the present status of combined vaccines. The final and most extensive section is concerned with attenuated virus vaccine and includes studies from various parts of the world on field safety and efficacy of the vaccine, antibody response with especial emphasis on the response of the newborn infant, a fairly comprehensive study of the problem of interference by other enteric viruses, and a final chapter on the spread of attenuated virus through the family and the community. Each series of papers is followed by panel discussion, and questions and answers by participants.

This volume represents an excellent reference work on the advances in the field of attenuated and live poliomyelitis vaccines, particularly because it includes not only United States, but also worldwide experience. It has additional virtue in that it enables the reader to share the exchange of divergent views among the principal investigators in this field. This book is a valuable addition to the shelves of all those who are faced with the imminent decisions to be made in this field.

* * *

PROGRESS IN NEUROLOGY AND PSYCHIATRY—AN ANNUAL REVIEW: Volume XVI—Edited by E. A. Spiegel, M.D., Professor and Head of the Department of Experimental Neurology, Temple University School of Medicine, Philadelphia. Grune & Stratton, Inc., 381 Park Avenue South, New York 16, N. Y., 1961. 617 pages, \$12.75.

This volume again summarizes and provides ready bibliographic reference for the immense number of publications pertaining to all aspects of function, of structure, and dis-ease of the nervous system as well as to psychiatry and psychology.

The basic science portion of the neurology section is again divided, for easy survey, into physiology, pharmacology, chemistry, anatomy, pathology chapters, and a brief survey of Russian contemporary neurochemistry is provided. Fascinating material is covered in many chapters, and the portions devoted to physiological correlates of learning and memory, electroencephalography, and neurochemistry seem of particular value. The summary of information concerning stereotaxic neurosurgical procedures for the extrapyramidal motor disorders emphasizes the fact that the best target is

still a matter for debate, but the most important evidence to emerge from the large literature is that the optimism of some operators is not shared by all, the excellent results reported in one series are not obtained by another investigator using the same technique, and morbidity statistics vary considerably, even in very capable hands. Sections on clinical neurology, pediatric neurology, neuroendocrinology show that the past barriers between neurology and other disciplines are rapidly being crossed in both directions. Internists and pediatricians may find much of interest in this volume.

The psychiatric section contains summaries of a large volume of empirical material which is, at best, subjectively colored and confusing. The champions of psychosurgery claim fantastic success while the psychopharmacologists though inundated with new drugs, claim most are not greatly more beneficial than ECT. Further, the literature begins to abound with reports of side reactions and complications in drug therapy for neurosis and psychosis, suggesting that some degree of discrimination has lacked in this type of management. The review section can be summed up in the words of one of the abstractors: "No major breakthroughs in 1960."

* * *

ONE FOR A MAN, TWO FOR A HORSE—Gerald Carson. Doubleday & Company, 575 Madison Ave., New York 22, New York, 1961. 128 pages, \$6.50.

The title refers to dosage of patent medicine, efficacious for man and beast. This is a book, humorous and historical, on an era of self-medication, when the patient had a fifty-fifty chance of profiting from his encounter with a physician.

Success of the medicines depended on advertising and secrecy and "patent" originated in patents of royal favor. The names, however, were jealously guarded by trademark laws.

The industry did a \$105,000,000 wholesale business in 1914, and an estimated 365,000,000 bottles of patent medicine were sold annually. After twenty-six bottles of Hall's guaranteed Catarrh Cure, one man was refused his money back because he hadn't given the product a fair trial.

A label for Lydia Pinkham's Compound discloses an 18 per cent alcohol content "added solely as a solvent and preservative." An enthusiastic member of the W.C.T.U., she might have wondered why male customers used her remedy for female weakness and fallen uterus.

There are sections on patent medicines for the drunkard, the tobacco habit, lost manhood ("failure at marital duties"), Indian medicine shows, electric belts, tonics, hair restorers, bust developers, etc.

The pages are large, and there are hundreds of illustrations, many of them in color—about equal to the text—obviously the result of painstaking search.

This should be a popular book, for the public and profession alike and would be a delightful gift. It must be seen to be fully appreciated.

WILLIAM F. LUTTGENS, M.D.

California

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Patent 'Quiet Pills' Of Doubtful Value

Purchasers of nonprescription sleeping pills and so-called tranquilizers are being "penny wise and pound foolish," according to an article in *Today's Health* magazine.

"The very fact that these 'quiet pills' can be bought over the counter should be clue enough as to the doubtful benefits they can bring to anyone's tensions," the article in the October American Medical Association magazine said.

"True tranquilizers—such as meprobamate and chlorpromazine—can be purchased only with a prescription," it pointed out.

Antihistamines, such as methapyrilene, are frequently used in over-the-counter "tranquilizers" because they produce drowsiness as a side-effect, the article said. Other drugs often combined with the antihistamine—or with each other—are mild sedatives; scopolamine, a mild sedative, and such pain-killers as salicylamide and acetophenatidin, it said.

The only reason the Food and Drug Administration allows quiet pills to be sold without a prescription is that the amount of drugs in each dose is well below what would ordinarily be needed to produce untoward effects, the article continued. The danger lies in the fact that persons who are not educated in pharmaceuticals and who are disturbed may take double or triple doses and perhaps more often than recommended on the label, it said.

For example, high doses of bromides taken over a long period of time can cause habituation, or bromide intoxication, the main symptom of which is mental disturbance, it said.

Scopolamine, if not used with care, can cause an exaggerated sense of well-being, hallucinations, amnesia and delirium, it said.

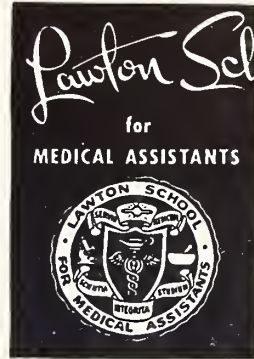
And antihistamines have other less desirable side effects, it said, including nausea, headache and double vision.

The greatest benefit from quiet pills probably comes from the suggestion that they help relieve nervousness and sleeplessness, the article said.

Persons who buy such pills are deluding them-

(Continued on Page 66)

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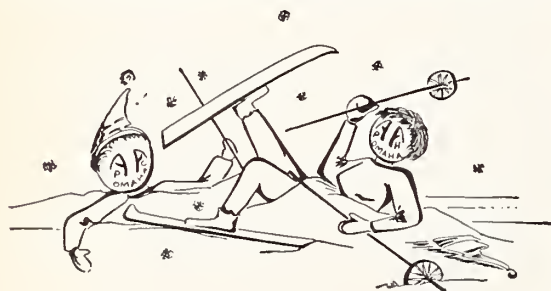
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Cervical Cancer Screening Advised for Bobbysoxers

Women of all ages should be screened for cervical cancer, according to an article in the October 28 *Journal of the American Medical Association*.

Dr. J. H. Ferguson, Miami, writing in the *Journal*, said no age limit should be imposed on the application of smear examinations to prevent cancer of the cervix.

Among 1,500 women from whom positive cancer smears were obtained at the University of Miami-Jackson Memorial Hospital, 77 were under 20 years of age, Dr. Ferguson reported. The youngest was 14, he said.

This finding "strongly supports the opinion that younger patients should not be denied a cancer smear during a routine pelvic examination," he said.

Screening examinations generally have been restricted to women aged 30 or 35 and older, the group in which there is the highest prevalence of cervical cancer, he said.

The smear test consists of removing material from the cervix and examining it microscopically for abnormal cells. The test is capable of detecting cancer before it begins rapid spreading.

Cervical cancer in this preinvasive phase has "a permanent cure rate of practically 100 per cent," Dr. Ferguson said.

Cervical screening tests have "saved the lives of thousands of women" by uncovering cancer when it was in this silent phase, an accompanying *Journal* editorial said. With universal application, it said, this screening method has "the potential of eradicating" cervical cancer.

Generically Identical Drugs Can Cause Various Responses

(Continued from Page 40)

hence prolong their action also results in products with widely varying characteristics, the authors said. A study involving the stimulant dextroamphetamine in the form of sustained-release capsules revealed that "no two products were completely alike and there were very substantial differences between the extremes," they said.

As a further example of brand variance, the authors said certain drugs used in the treatment of tuberculosis are prepared in the form of granules with a shellac coating and some types of coating as they age reduce the absorption rate of the drug.

"Since there is no standard for coatings, various brands of this drug are obviously not equivalent," they said.

Drugs in the form of suspensions also may vary from brand to brand, the authors said, because the availability of a drug for absorption and the efficiency of the preparation depends on the size of suspended particles.

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New Method Reported for Diagnosing Lung Clots

A new method was reported recently for making a quicker and more accurate diagnosis of the presence of blood clots in the pulmonary artery, a disorder responsible for a constantly high death rate.

The method was described by Drs. Warren E. C. Wacker, Miriam Rosenthal, Philip J. Snodgrass and Elias Amador, Boston, in the October 7 *Journal of the American Medical Association*.

It will aid doctors in determining whether a patient has suffered pulmonary embolism, a heart attack or pneumonia. This has been a difficult diagnostic problem because the symptoms of the three ailments are similar—heart failure, chest pain, irregular heart beat and fever.

Although a definitive diagnosis can be made in 30 per cent of the patients with heart attacks, the researchers said, specific treatment of patients with pulmonary embolism has been delayed because an accurate diagnosis has been possible in only 20 to 50 per cent of these cases.

By measuring the presence of three substances in the blood, they said, it is now possible to diagnose pulmonary embolism "promptly and with greater certainty."

As a result, they said, treatment can be started

in time to prevent the recurrence of blood clots which may prove fatal.

The incidence of pulmonary embolism is "extremely high," ranking as the most frequent lung disease seen in general hospitals, the authors said, and the incidence increases with age. The new method, they pointed out, makes it possible to diagnose the disease "even in geriatric patients with preexisting heart disease."

Since there is a high incidence of pulmonary embolism in patients convalescing from a heart attack, they said, the diagnostic technique also should be "very useful" in differentiating between the presence of lung clots and other after-effects of a heart attack.

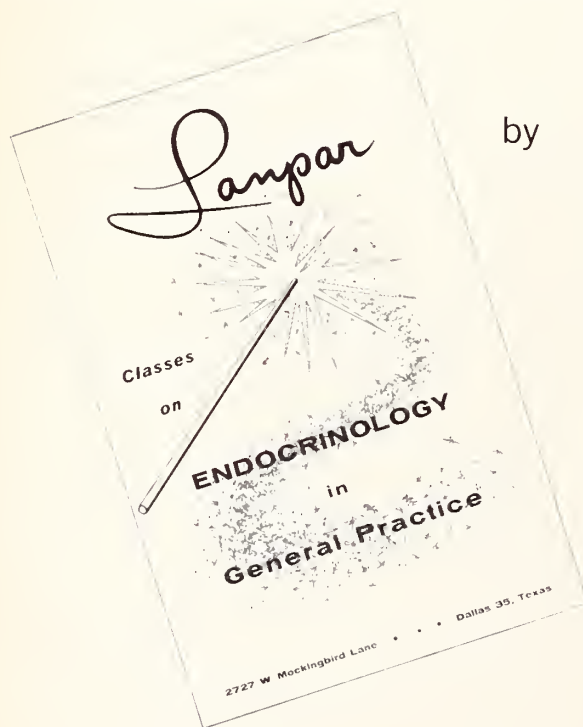
The new diagnostic method is based on an earlier finding reported by Drs. Wacker and Snodgrass that a constant concomitant of pulmonary embolism is a rise in the amount of an enzyme, lactic dehydrogenase (LDH), in the blood.

The present report deals with a study showing that the activity of another enzyme, glutamic-oxalecetic transaminase (GOT), does not increase after the lung disorder.

The authors concluded that a rise in LDH plus the well-known phenomenon of an increase in the concentration of bilirubin, a red bile pigment, in the blood plus a normal level of GOT adds up to "strong

(Continued on Page 66)

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“nutrition...present as a modifying or complicating factor in nearly every illness or disease state”¹

1. Youmans, J. B.: *Am. J. Med.* 25:659 (Nov.) 1958

cardiac diseases “Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease.”²

2. Kampmeier, R. H.: *Am. J. Med.* 25:662 (Nov.) 1958.

arthritis “It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . .”³

3. Fernandez-Herlihy, L: *Lahey Clinic Bull.* 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.⁴ Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.⁵

4. Sebrell, W. H.: *Am. J. Med.* 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: *Therapeutic Nutrition*. National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

degenerative diseases “Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult.”⁶

6. Overholser, W., and Fong, T. C. C. in Stieglitz, E. J.: *Geriatric Medicine*, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.⁷

7. Goldsmith, G. A.: *Conference on Vitamin C*. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: *Medical Science* 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.⁸ “Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes.”⁹

8. Duncan G. G.: *Diseases of Metabolism* 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: *Am. J. Med.* 25:708 (Nov.) 1958.

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REFERENCES AND REVIEWS

FEVER CURVE AS AN INDICATOR FOR STEROID THERAPY IN MILIARY TUBERCULOSIS—J. A. Gold. Dis. Chest—Vol. 40:171 (Aug.) 1961.

The author believes that the secondary temperature spike in patients with tuberculous meningitis is most likely to cause further spread of the disease, or an impending fatal complication. The steroid schedule ranged from 20 to 40 mg. of prednisolone for 1 to 2 weeks, with gradual decrease for an additional 4- to 8-week period.

* * *

NEUROSURGERY, THE PUBLIC AND THE LAW—J. G. Love, J. Neurosurg.—Vol. 18:567 (Sept.) 1961.

In this presidential address before the Harvey Cushing Society the author concerns himself with the physician-patient relationship, with particular attention to its medico-legal aspects. Counselling the seriously-ill patient and his family, use of "heroic" measures to prolong life, the specter of malpractice, prescription of special tests and x-rays, relations with public media and testimony in court are among the problems discussed.

* * *

HUMAN NERVE ROOT CYSTS—D. T. Smith, J. Neurosurg.—Vol. 18:654 (Sept.) 1961.

One hundred consecutive autopsies of the human spinal canal with histological examination of the spinal nerve roots and dorsal ganglia have shown cyst formations in 9 per cent

of the cases. These occur from the rostral thoracic segments to the sacral segments. Their size, distribution, and morphology would seem to indicate that they result from a hydrostatic mechanism associated with a defect at the dorsal root-ganglia junction. Their frequency of occurrence and lack of associated symptoms would indicate that they are usually not associated with nerve root pain syndromes.

* * *

PHYSIOLOGIC CONTROL OF CONCEPTION WITH NORETHYNDREL: CLINICAL EXPERIENCE—J. A. Morris, Jr. Amer. J. Obstet. Gynec.—Vol. 82:428 (Aug.) 1961.

Fifty highly fertile patients, 17 to 44 years of age, from the obstetric and gynecologic clinic of Fitzsimons Army Hospital were treated with 19-norethynodrel through 204 menstrual cycles over a period of 1 to 14 months. Effective contraception appears to have been obtained in 47 of these patients; three patients were therapeutic failures. The pharmacological, metabolic, and biological effects of this highly potent, orally administered, progestational compound have been reviewed. Multiple serial biopsies illustrate the peculiar histopathological changes associated with long-term therapy.

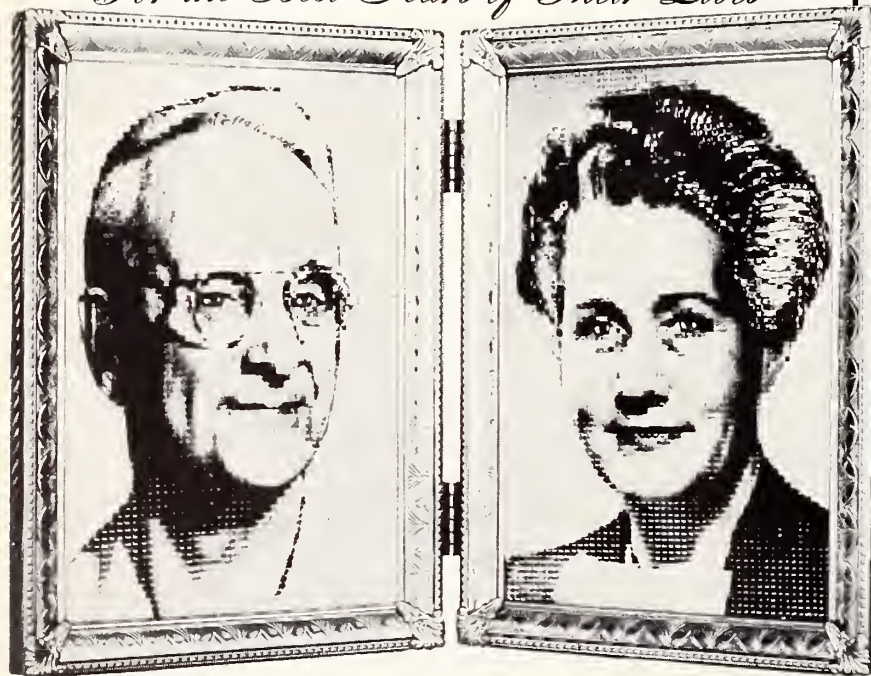
* * *

PSYCHIATRIC TEAMS—R. Crawshaw and W. Key. Arch. Gen. Psychiat.—Vol. 5:397 (Oct.) 1961.

Psychiatric teams were considered historically and operationally. A review of literature reveals definition of teams by membership, goals, and psychological structure. Operation of teams involves problems in membership, leadership, communication, and interdisciplinary understanding. Typical team problems, with solutions, are given. Psychiatric teams have a generic life which can be followed and fostered.

(Continued on Page 63)

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REFERENCES AND REVIEWS

(Continued from Page 60)

GASTROINTESTINAL ABSORPTION OF ORAL IRON-DEXTRAN AND FERROUS SULFATE—P. A. Ragen, L. Walker, G. D. Sparling, and R. P. Pillow. *Amer. J. Med. Sci.*—Vol. 242:454 (Oct.) 1961.

Gastrointestinal absorptions of small oral doses of Fe^{59} labeled ferrous sulfate and a new iron-dextran ("Jefron") were measured in 9 normal adults. An average of 26 mcg. (52 per cent) of 50 mcg. of ferrous sulfate was absorbed. An average of 180 mcg. (51 per cent) of a larger 354 mcg. dose of the iron-dextran was absorbed.

* * *

NEAR-FATAL PEDIATRIC CASE OF PARATHION POISONING TREATED WITH 2-PAM—G. E. Quinby and G. B. Clappison. *Arch. Environ. Health*—Vol. 3:543 (Nov.) 1961.

This account of a near-fatal case of organic phosphorus insecticide poisoning, successfully treated with an investigational drug, 2-pyridine aldoxime methiodide (2-PAM), should be of interest to all physicians, especially those in agricultural areas.

* * *

ERYTHROCYTE SEDIMENTATION RATE IN VARIOUS HEMOGLOBINOPATHIES—C. C. Abel and L. Beier. *Amer. J. Med. Sci.* Vol. 242:463 (Oct.) 1961.

The erythrocyte sedimentation rate was noted to be virtually nil in a family with four members having homozygous hemoglobin C disease. Red cell sedimentation was investigated in 37 other hemoglobinopathies but no definite pattern was observed, except in the homozygous C condition. Mech-

anisms were discussed. Certain hemoglobinopathies as well as hypofibrinogenemia should be considered in the differential diagnosis of the low erythrocyte sedimentation rate.

* * *

MUSHROOM TOXINS. BRIEF REVIEW OF LITERATURE—R. W. Buck. *New Eng. J. Med.*—Vol. 265:681 (Oct. 5) 1961.

The literature on mushroom poisoning is reviewed. Mushrooms that contain muscarin, myceto-atropin (levo-hyoscyamin), bufotenin, amanita toxins (5 in number), helvellic acid, psilocybin, disulfiram and gastrointestinal irritants are identified. Fifty-three mushrooms of the northeastern United States known to have caused significant poisoning are listed.

* * *

RESPIRATORY SYNCYTIAL VIRUS IN BRITAIN—D. B. Peacock and S. K. R. Clarke. *Lancet*—Vol. 2:466 (Aug. 26) 1961.

Isolation in HeLa cells, of respiratory syncytial virus from two babies with bronchiolitis in Bristol, England, is described. Seventeen of 20 adult serums fixed the complement in the presence of one isolate. One illustration shows intracytoplasmic inclusions.

* * *

ELECTRONIC DATA PROCESSING SCHEME FOR OCCUPATIONAL MEDICAL SERVICE—L. Wade. *Arch. Environ. Health*—Vol. 3:526 (Nov.) 1961.

Experimentation with a number of forms, methods, etc., led to an eminently satisfactory method for collection of morbidity and mortality data and provided a key for the study of specific problems of diagnosis, toxicology, administration, etc. The method is described and several examples of the kinds of information which can be provided are given.

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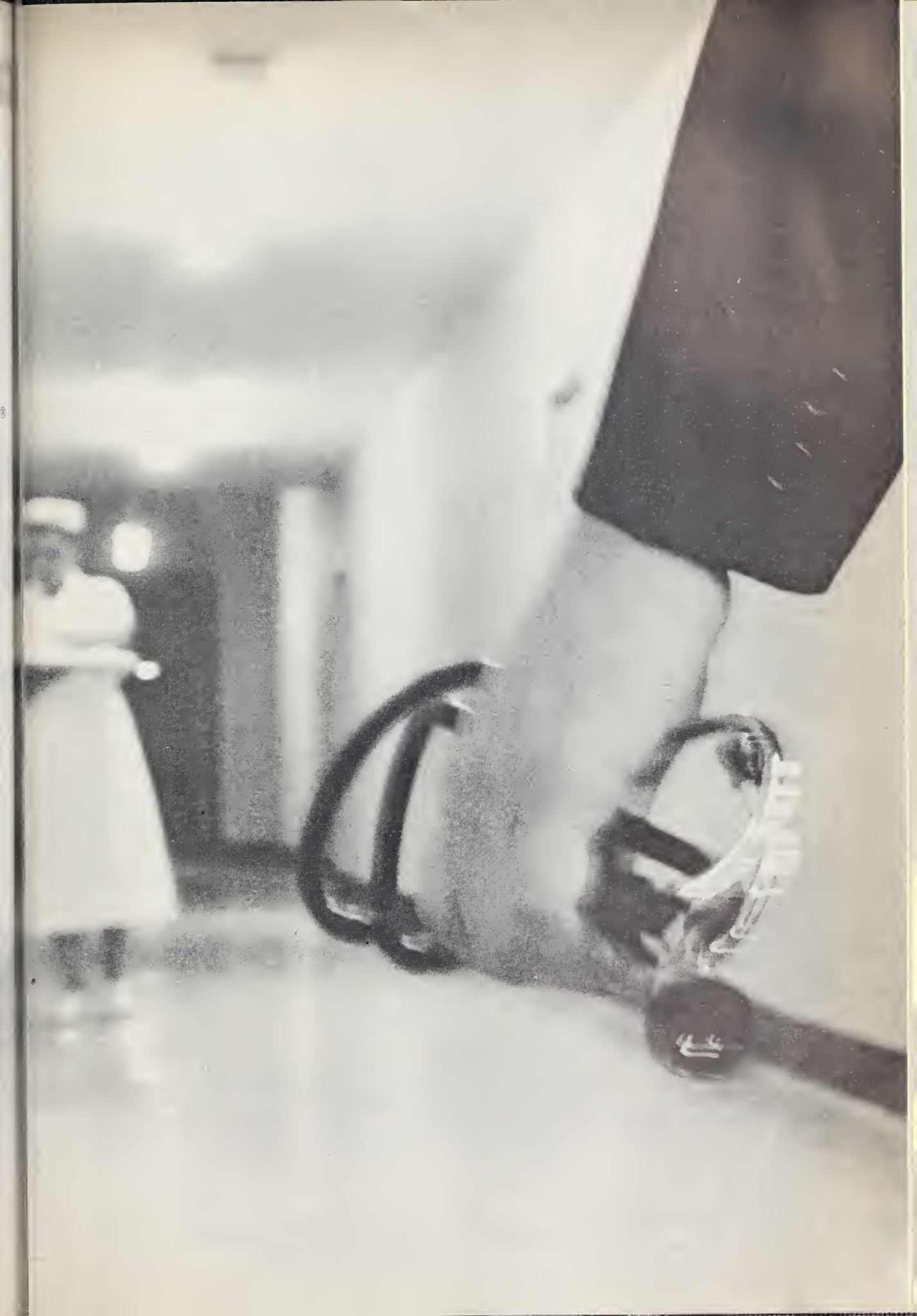
Warning: Serious and even fatal blood dyscrasias (aplastic anemia, hypoplastic anemia, thrombocytopenia, granulocytopenia) are known to occur after the administration of chloramphenicol. Blood dyscrasias have occurred after both short-term and prolonged therapy with this drug. Bearing in mind the possibility that such reactions may occur, chloramphenicol should be used only for serious infections caused by organisms which are susceptible to its antibacterial effects. Chloramphenicol should not be used when other less potentially dangerous agents will be effective, or in the treatment of trivial infections, such as colds, influenza, or viral infections of the throat, or as a prophylactic agent. **Precautions:** It is essential that adequate blood studies be made during treatment with the drug. While blood studies may detect early peripheral blood changes, such as leukopenia or granulocytopenia, before they become irreversible, such studies cannot be relied upon to detect bone marrow depression prior to development of aplastic anemia.

References: (1) Malone, F. J., Jr.: *Mil. Med.* 125:836, 1960. (2) Martin, W. J.; Nichols, D. R., & Cook, E. N.: *Proc. Staff Meet. Mayo Clin.* 34:187, 1959. (3) Ullman, A.: *Delaware M. J.* 32:97, 1960. (4) Petersdorf, R. G.; Hook, E. W.; Curtin, J. A., & Grossberg, S. E.: *Bull. Johns Hopkins Hosp.* 108:48, 1961. (5) Jolliff, C. R.; Engelhard, W. E.; Ohlsen, J. R.; Heidrick, P. J., & Cain, J. A.: *Antibiotics & Chemother.* 10: 694, 1960. (6) Lind, H. E.: *Am. J. Proctol.* 11:392, 1960.

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New Method Reported for Diagnosing Lung Clots

(Continued from Page 54)

diagnostic evidence" that pulmonary embolism has occurred.

A heart attack is associated with a rise in both LDH and GOT and pneumonia is associated with normal levels of both of these enzymes, they said. Therefore, the measurement of these three sub-

stances can be used to differentiate the lung disorder from the other two ailments, they said.

In patients with severe liver disease, however, this diagnostic method frequently would not be applicable because liver disease causes abnormal activity of LDH, GOT and bilirubin, the researchers added.

The Boston physicians are associated with the biophysics research laboratory and the medical clinic, department of medicine, Harvard Medical School and the Peter Bent Brigham Hospital.

Patent 'Quiet Pills' Of Doubtful Value

(Continued from Page 45)

selves into thinking that for a dollar or two they can avoid professional treatment, it said, adding:

"Actually, they stand the risk of aggravating their mental turmoil and worsening their condition. When they finally do consult a physician, they may require more extensive treatment than if they had sought help in the first place."

Although difficulty in sleeping can be a symptom of emotional upset, even a good sleeper has trouble sleeping about a tenth of the time and the easiest way to find sleep is to stop worrying about it, the article said. Tensions, too, can be a danger signal, it said.

The best thing to do for sleeplessness or tension is to see your doctor, the article advised. He will know whether you need a specialist, such as a psychiatrist, it said, and since most emotional upsets are minor, he can probably treat you himself.

The article was written by Theodore Berland.

THE "LITTLE CURETTE"—R. E. Burns. Arch. Derm.—Vol. 84: 662 (Oct.) 1961.

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1. Clinical reports to the Medical Department, Armour Pharmaceutical Company, 1960. 2. Billow, B. W., et al.: *Southwestern Med.* 41:286, 1960. 3. Taub, S. J.: *Clin. Med.* 7:2575, 1960. 4. Teitel, L. H., et al.: *Indust. Med.* 29:150, 1960.

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Chymoral is an ORAL anti-inflammatory enzyme tablet specifically formulated for intestinal absorption. Each tablet provides enzymatic activity, equivalent to 50,000 Armour Units, supplied by a purified concentrate which has specific trypsin and chymotrypsin activity in a ratio of approximately six to one. **ACTION:** Reduces inflammation of all types; reduces and prevents edema except that of cardiac or renal origin; hastens absorption of blood and lymph extravasates; helps to liquefy thick tenacious mucous secretions; improves regional circulation; promotes healing; reduces pain. **INDICATIONS:** Chymoral is indicated in respiratory conditions such as asthma, bronchitis, rhinitis, sinusitis; in accidental trauma to speed absorption of hematoma, bruises, and contusions; in inflammatory dermatoses to ameliorate acute inflammation in conjunction with standard therapies; in gynecologic conditions such as pelvic inflammatory disease and mastitis; in obstetrics as episiotomies and breast engorgement; in surgical procedures as biopsies, hernia repairs, hemorrhoidectomies, mammectomies, phlebitis and thrombophlebitis; in genitourinary disorders as epididymitis, orchitis and prostatitis; in dental and oral surgery as fractures of the mandible or maxilla, difficult or multiple extractions, and alveolotomies. **CONTRAINDICATIONS:** None known. **INCOMPATIBILITIES:** None known. Antibiotics as well as generally accepted measures may be coadministered. **SIDE EFFECTS:** Mild gastric upsets, rarely encountered. **DOSAGE:** Recommended initial dose is two tablets q.i.d.; one tablet q.i.d. for maintenance. **SUPPLIED:** Bottles of 48 and 250 tablets.



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Life-Saving Operation Removes Blood Clots from Lungs

(Continued from Page 33)

A person suffering a massive lung clot may die within a few minutes. If the patient survives the initial effects, he may remain in a state of profound shock and with appropriate treatment he may recover slowly.

Previous surgical attempts have been generally unsuccessful. However, a successful operation was reported last year without use of a heart-lung machine, the authors pointed out. The procedure was carried out while the patient's body temperature was lowered and his blood circulation halted briefly, they said.

The operation performed by the Baylor group consisted of opening the main pulmonary artery and withdrawing the blood clots with a suction and forceps. The lungs also were compressed repeatedly to remove clots more firmly lodged in the smaller branches of the lungs' vascular tree.

The removal of all clots required 15 minutes during which the work of the patient's heart and lungs was taken over by the heart-lung machine.

Except for a mild fever the first three days following the operation, the convalescence was termed "smooth and uncomplicated."

Although many patients die instantly following massive blood clots in the lungs, it is not unusual

for patients to survive one or more hours, the authors said. In these cases, they said, emergency surgery "should permit the saving of many patients who otherwise are doomed."

In the case reported, the decision to operate was made at midnight, the physicians said. Two hours later, after preparations for use of the heart-lung machine were completed, the operation was begun, they said. This was 42 hours after the onset of symptoms, they said.

Emergency surgical treatment of the condition has challenged surgeons for more than 50 years since it first was termed possibly feasible, the *Journal* editorial said.

Although the operation with use of the heart-lung machine will be performed only rarely compared with the frequency of the condition, the editorial said, this method "deserves consideration in every case" in which the blood clot is not immediately fatal.

Drs. Cooley and Beall are surgeons. Dr. Alexander is an internist.

UNUSUAL TOXIC REACTION TO AMODIAQUINE (CAMOQUIN)—

F. X. Schloeder, Arch. Derm.—Vol. 84:601 (Oct.) 1961.

A case is presented of an unusual toxic reaction to amodiaquine (Camoquin), characterized by yellow pigmentation, corneal edema, lethargy, muscle weakness, and degeneration of muscle tissue.

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